An Analysis of Mathematical Expressions Used in Practice

(Thesis Format: Monograph)

by

Clare M. So

Graduate Program in Computer Science

A thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Science

Faculty of Graduate Studies
The University of Western Ontario
London, Ontario, Canada

THE UNIVERSITY OF WESTERN ONTARIO
FACULTY OF GRADUATE STUDIES

CERTIFICATE OF EXAMINATION

Supervisor	Examiners
Dr. Stephen M. Watt	Dr. James H. Andrews
Supervisory Committee	Dr. Vladimir A. Miranskyy
	Professor Mark Perry

The thesis by

Clare Man Yin So

entitled:

An Analysis of Mathematical Expressions Used in Practice

is accepted in partial fulfillment of the
requirements for the degree of
Master of Science

Date _____

_____
Chair of the Thesis Examination Board

Abstract

The applications of mathematical computing are increasingly depending on notions of well-formed expressions and knowledge of which well-formed expressions are desirable. Software designers select these notions based on their preferences and experience. These notions and knowledge are hard-coded into their software's logic. The knowledge of these software designers is only a subset of all mathematicians. As the result, every mathematical software packages is more natural to use in some areas than others, depending on the compatibility between the software designers' knowledge and the individual mathematicians' needs.

Believing that empirical knowledge of mathematics is the best measure to determine the desirability expression forms, we collected and analyzed over 20,000 mathematical documents that were submitted to the arXiv server from 2000 to 2004. We describe the process of analyzing these documents and present empirical results based on our analysis. Our results point out that mathematical notation usage is dependent on areas of mathematics.

Some methods to analyze this corpus of data are inspired by these empirical results. The notion of a weighted dictionary is used to measure the relative frequency of expressions of different sizes. Algorithms are explored to obtain mathematical notation usages information, including common patterns of expressions and probability of symbol sequences.

Keywords: mathematical knowledge management, mathematical handwriting recognition, knowledge representation

Contents

List of Figures

Chapter 1

Introduction

Processing mathematical expressions in mathematical software packages often relies on notions of well-formed expressions and, of the well-formed expressions, knowledge of desirable expression forms. These notions and knowledge are selected by software designers and, based on software designers' expertise, are hard-coded into the mathematical software packages' logic. This methodology becomes problematic because the software designers' predefined notions and knowledge do not necessarily represent all mathematicians' opinions. Designers have their own preferences and experiences. As a result, some mathematical software packages are more natural to use in some areas of mathematics than others, depending on the compatibility of designers' opinion and users' needs.

Believing that knowledge of desirable expression forms is important for developing useful mathematical software packages, we wish to understand which expression forms are used often in mathematics. Frequently-used expression forms should be deemed desirable. In particular, we take the point of view that empirical knowledge of actual mathematical usage enables mathematical software designers to accommodate the needs and preferences of mathematicians.

Our initial motivation of this study was to derive empirical knowledge of mathematics for recognizing handwritten mathematical expressions. The existing recognizers have not

Figure 1.1: Handwriting recognizer in Tablet PC cannot recognize mathematics.

been designed for mathematics (Figure 1.1). Enabling pen-based devices to input mathematics would encourage more mathematicians to use mathematical software packages such as computer algebra systems. The present acceptable accuracy rate of recognition for natural language is partly achieved by the help of a built-in dictionary. In other words, recognizing handwriting is not based on stroke and feature analysis of letters alone: Appropriate domain knowledge helps the recognizer to anticipate and guess what is correct. For example, the capital letters "H" and "A" may be written similarly. With the knowledge of the next and previous letters, an average English speaker can tolerate the "A" to be written slightly opened at the top (Figure 1.2). The dictionary can also be used for segmentation, a process which determines the boundaries of individual letters in cursive handwriting. In cursive handwriting, most of the letters are joined together in one stroke and some letters such as "e" and "l" are written similarly. Without a dictionary, it would be impossible to determine the appropriate boundaries of individual letters.

A word-based dictionary is inappropriate for encoding the forms of mathematical expressions because of their nature. Mathematical expressions are formed as expression trees, not

Figure 1.2: Distinguishing between "A" and "H": An average English speaker could recognizing the words "cat" and "hat" although "A" and "H" are written similarly.

strings, and there is no comprehensive list of acceptable subexpressions. Encoding forms of the mathematical expressions require a more sophisticated datastructure than natural languages do. In principle, almost any sequence of symbols could be a valid mathematical expression. While vocabulary for a natural language is fixed or is expanded in a slow rate, the possible set of mathematical expressions is infinite as the vocabulary of mathematics is constantly expanding.

We observe that usability and efficiency of the mathematical software packages is dependent on the knowledge of desirable forms of mathematical expressions. We realize that a human requires previous knowledge of specific domains to process information such as mathematical notations. Representation of information, including that of mathematics, is often complex. Modern mathematical notations are the product of hundreds of years of evolving practice by thousands of mathematicians around the world. Mathematicians learn the notions of well-formed and desirable expressions by repeated exposure to appropriate examples and literature. Sophisticated mathematicians can deal with the complexities of mathematical notations: For example, they can take a book of mathematcs from a library bookshelf, glance through the pages, and have an idea of which areas of mathematics that the book covers. We therefore believe that knowledge of mathematical expressions should be used in mathematical software packages. In mathematical formulae recognition, this knowledge would help to solve ambiguities such as $A \times B$ and AxB. In symbolic computation, this knowledge would help deciding a preferable term ordering in expressions such as the polynomial $x^2 + x + 1$ and the series expansion $1 + x + x^2 + x^3 + x^4 + \cdots$.

1.1 Previous and Related Work

To our knowledge, there has not been any previous work corresponding to our study of empirical usage in mathematical literature. We relate our study to the works on recognizing mathematical expressions and the works on processing mathematical expressions and on formalizing mathematical knowledge.

Past attempts in processing typeset or handwritten mathematical expressions have had limited success. Each of the attempts considered only a small, pre-defined set of mathematical notations. As the result, the applications built for these experiments are only useful for a limited number of areas of mathematics. Berman and Fateman [14] focused on encoding scanned integral tables. Lavirotte [20] explored how graph grammar could help associating characters and symbols in typeset formulae. In his experimental system, only certain types of formulae, which are specified by grammars, are considered. Wan [28] developed an experimental mathematical handwriting recognizer for Pocket PC that was only for a small set of elementary mathematical notations.

Previous studies show that utilizing the wealth of mathematical knowledge in mathematical software packages becomes a necessity and is challenging. Adams [13] discussed how the knowledge of specific domains can help mathematical software packages such as theorem provers or computer algebra systems. The methods to formalize mathematical knowledge continue to be developed. Cairns [16] experiments on a technique to formalize a standard library of mathematics so that knowledge can be retrieved effectively. The problem is that a lot of mathematical knowledge is not yet encoded in machine-usable form. For the knowledge that is encoded electronically, there exist different formats to accommodate different needs of mathematicians and incompatible software packages. As a result, much mathematical knowledge cannot be used by a wide range of computer applications.

1.2 Goals and Contributions

Upon realizing the increasing need of empirical mathematical knowledge in mathematical computing, the goals of this work have been to understand how to

- gather and represent empirical mathematical notation usage information
- organize, analyze and model this knowledge
- use this knowledge in mathematical computing applications

The key contributions of this work are to

- emphasize that the knowledge of empirical usage of mathematical notations is relevant for building mathematical software
- derive methodologies for empirical analysis of mathematical notations
- identify symbols and subexpressions usages in different areas of mathematics
- analyze usages of notations by generating pattern expressions

1.3 Applications

Although our initial motivation of this work has been to recognize handwritten mathematical expressions, we believe that this work can be applied to a broader range of mathematical software packages for symbolic computation or mathematical knowledge management.

1.3.1 Mathematical Handwriting Recognition

Knowing the present success rate for recognition in natural language handwriting, we look for ideas that can be applied to recognizing handwritten mathematical expressions. One of the ideas is to use background knowledge to eliminate inadmissible results of recognition. While other components of the handwriting recognition architecture are important, they

remain insufficient because handwriting can be ambiguous. A human reader can tolerate some ambiguities of handwriting by knowing the context. Software should perform the equivalent by looking up the notions of well-formed expressions. We believe a component for performing this functionality for mathematics is important in recognizing handwritten mathematical expressions.

1.3.2 Symbolic Mathematical Computing

Empirical knowledge of mathematics can guide symbolic computation software packages to choose an appropriate representation of an expression. Two issues with representations are term ordering and simplification of expressions. Usefulness of mathematical software packages does not rely on the power of underlying algorithms alone. Appropriate representations can make software to be more natural to use by mathematicians. Appropriate representations are dependent on the areas of mathematics and the nature of the mathematical problem.

Correct term ordering is dependent on the area of mathematics. The terms are best put in a certain order that is consistent throughout the same area of mathematics. The polynomials are usually written having the constant in the last term, as in x^2+x+1. The series expansions are written having the constant in the first term, as in $1 + x + x^2 + x^3 + x^4 + \cdots$. This knowledge is often hard-coded in software packages.

Expression simplification relies on the knowledge of desirable expression forms. Appropriately simplified expressions make the mathematics more readable. How the expressions are simplified should be based on actual notation usages and preferences.

1.3.3 Mathematical Knowledge Management

Other applications include automatic mathematical document classification and mathematical data mining. If mathematical documents are classified automatically, mathematicians can search mathematical documents by area. Having an organized, searchable form of mathematical knowledge can enable mathematical software packages to solve problems by using

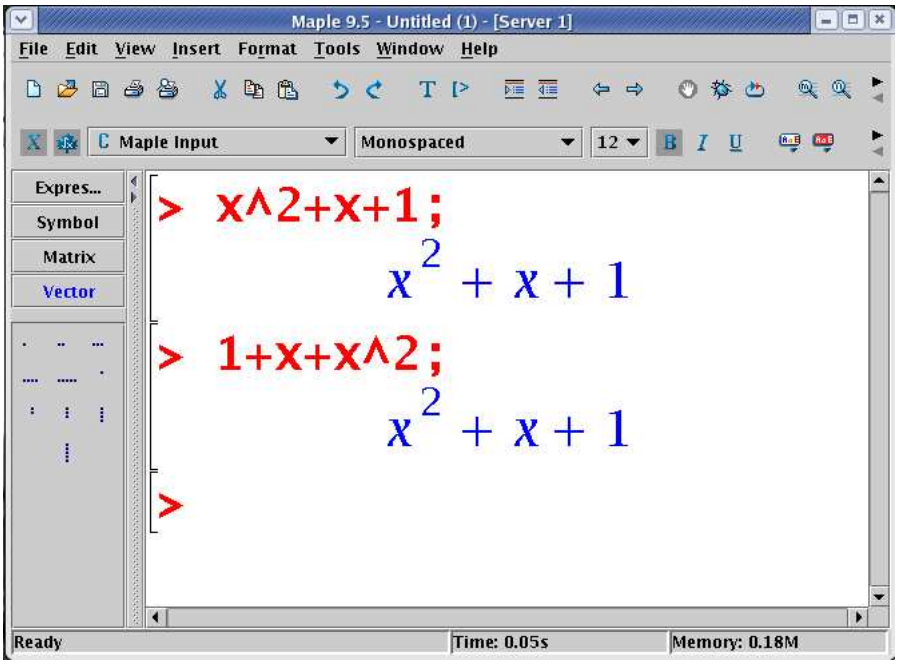

Figure 1.3: Maple (a computer algebra system) automatically puts the polynomials in the order that is first used.

existing knowledge. In the theorem proving case, applying an existing theorem to the current problem results in saving computing resources.

1.4 Organization of this Thesis

This thesis is organized as follows: Chapter 2 describes the characteristics of mathematical expressions. Characteristics of mathematical expressions are distinct from those of natural language phrases. Because of the syntactic complexity of mathematical expressions, methods to encode background knowledge of natural languages become insufficient for mathematics. Chapter 3 describes the complexity of representing mathematics electronically. By examining the different data formats of mathematics, we gain appreciation of the complexities of mathematical data formats. Understanding the complexities of mathematical data formats reinforces the need of enabling pen-based devices for inputting mathematics. Chapter 4 outlines the requirement of a handwritten mathematical expressions recognizer. Different components in the recognizer are to work together resulting an increase of recognition

rate and usability. Chapter 5 presents our methodology to collect and analyze empirical mathematical knowledge. We use the arXiv e-Print archive as the source of mathematical expressions. Before analyzing the expressions, we put the expressions in a form that can be analyzed using a TEX to MathML translator and canonicalization. Chapter 6 describes the initial results of our experiments. We argue that each area of mathematics has its distinct symbols and expressions usage. Chapter 7 outlines the methods inspired by our initial results to further analyze data. Chapter 8 discusses the ongoing work of this research. To extract the notation usage, anti-unification can be applied to a set of expressions. The notion of symbols' common writing order can be used to predict the next symbols to be written. A Markov chain can be built to recognize popular writing order of symbols. Chapter 9 concludes the thesis.

Chapter 2

Properties of Mathematical Expressions

The methods to process natural languages are not suitable for processing mathematical expressions because the lexical structure of mathematical expressions is more complex than the one of natural languages. New methods and special data structures are needed to handle the complex nature of mathematical expressions. Many differences exist between the characteristics of mathematical expressions and natural languages. The two-dimensional relationships between symbols are relevant in mathematical expressions. Natural languages do not impose such relationships between different phrases. Some operators are represented implicitly in mathematical expressions. In natural languages, the necessary parts and constructs are usually represented explicitly. The associations between symbols in mathematical expressions follow arbitrary rules. Various conventions direct how the different building blocks in mathematical expressions are associated. Even with the rules and conventions pointing out how symbols are associated and expressions be understood, the expressions' interpretations may not be unique.

2.1 Two-Dimensional

Mathematical expressions use combinations of writing and drawing. The two-dimensional relationships between symbols are important because they often carry implicit meanings. By examining TEX's math environment commands and the current MathML [1] standard, two-dimensional relationships of mathematical expressions are

- Inline (Example: $2x$)
- Subscript (Example: x_2)
- Superscript (Example: x^2)
- Overscript (Example: $\overrightarrow{AB}$)
- Underscript (Example $\underbrace{a+b\cdots+z}_{26}$)
- Prescript (Example: ${}_yF$)
- Table (Example: $\begin{bmatrix} 1 & 0 \\ & \\ 0 & 1 \end{bmatrix}$)
- Enclosed (Example: $\sqrt{x}$)

These two-dimensional relationships of mathematical expressions mean the present handwriting recognizers cannot be used for mathematical computing: The recognizers assume that writing must have linear structure and everything else, including mathematics, are treated as pictures. Pictures of mathematical expressions are not useful for further processing in computation applications. Sophisticated mathematicians can recognize the appropriate relationships between the symbols and know how symbols relate to each other. Previous knowledge of mathematics is important in recognizing the two-dimensional relationships.

2.2 Implicit Semantics

Not all operators in the mathematical expressions are represented explicitly. Some two-dimensional relationships can impose implicit operators. For example, a superscript of an expression could be an exponent and a subscript of a variable could indicate the index of the term.

The identity of the symbols is important in determining the interpretations of expressions with implicit operators. An example would be $f(y-1)$ and $x(y-1)$. In the $f(y-1)$ case, we know that f usually represents a function and $(y-1)$ is the argument of the function. In the $x(y-1)$ case, x does not denote a function and a "times" operator is assumed implicitly between x and $(y-1)$.

2.3 Arbitrary Associations

In handwritings of languages with Latin-based writing systems, individual words or components of sentences are separated by spaces or punctuation. The neighbouring letters within a word are associated. Associating mathematical symbols in an expression follows numerous arbitrary rules based on conventions: It is not correct to say that we can just simply associate all neighbouring symbols in mathematical expressions. For example, ∞ in $\int_{-\infty}^{\infty} xdx$ is associated with $\int$ and not with x. This is one reason why the existing handwriting recognizer cannot be used for recognizing mathematical expressions.

Although there exists many possible two-dimensional relationships between symbols and expressions, only certain relationships are allowed based on the identity of symbols and the type of expressions. Sophisticated mathematicians know the legitimate associations and eventually impose an interpretation of the expressions.

Operators, whether implicit or not, can associate symbols and subexpressions. Types of operators can be

- Linear

  - Prefix (Example: $-x$)
  - Infix (Example: $x + y$)
  - Postfix (Example: $x!$)
  - Bounding (Example: $[-\pi, \pi]$)

- Vertical (Example: $\frac{x}{y}$)
- Implicit (Example: x^2, x_2, ${}^2x$)
- Table (Example: $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$)
- Enclosing (Example: $\sqrt{x}$)

Some operators can only take a certain number of arguments, so the types of operators can be further broken down as

- Unary (Example: $x!$)
- Binary (Example: $x - 2$)
- N-ary (Example: $x + y + z$)

The conventions limit the number of arguments and arguments' positions. For example, prescripts are so rare in general that only certain symbols may have such associations. For these reasons, we argue that an useful recognizer for mathematical expressions should understand the mathematical conventions.

Note that legitimate associations of certain operators may depend on the context of the whole expression. For example, we would allow superscript in an expression such as $(x+y)^2$. In this case, the parenthesis indicate a proper subexpression. Superscript is not normally allowed on an opening parenthesis (e.g. "$({}^2$").

2.4 Convention Dependency

The proper usage of mathematical symbols is based on conventions. The conventions to be used depend on the areas of mathematics and origin of the text: Different areas of mathematics may adopt their own conventions. As the result, the same mathematical idea may not be written in the same way in all disciplines. For example, the imaginary number $\sqrt{-1}$ is represented by i in calculus textbooks and j in some engineering ones. Different countries may adopt their own conventions. For example, the formulae are written from right to left in some Arabic countries but are written from left to right in other ones [21].

2.5 Potential Ambiguity

Even with the constraints implied by conventions, typeset mathematical expressions may still be ambiguous. A notable example is the interpretations of $\sum_{i=0}^{\infty} i + 1$ [20]. The possible interpretations of this expression are $(\sum_{i=0}^{\infty} i) + 1$ and $\sum_{i=0}^{\infty}(i + 1)$. In typeset expressions, we may leave the ambiguities to readers' interpretation. If we would like to extract the semantics of such expressions automatically, heuristics should be use to determine which interpretation should be used. The heuristics in the systems could use information such as the actual distance between different symbols.

Handwritten mathematical expressions introduce more ambiguities than typeset ones do because the symbols and spatial relations are not clear. The two-dimensional relationships between subexpressions may not be precise in handwritten expressions, for example, of $2x$ and 2^x. A threshold is needed to determine the type of two-dimensional relationships. Some symbols such as "5" and "S" can be written similarly. To resolve this kind of ambiguity, surrounding symbols and context may be examined.

Chapter 3

Machine Representation of Mathematics

The machine encodings of mathematical expressions are (1) to typeset the presentation of mathematical notations and (2) to represent the mathematical ideas for computation. Encodings satisfying each of these requirements are needed because a presentation of a mathematical expression does not readily correspond to an unique mathematical semantics. For example, i can represent $\sqrt{-1}$ in a complex number or one of the coordinates in a three dimensional plane. This fact implies different encodings of mathematics are needed for different mathematical software packages. Document typesetting systems, such as TEX, require inputs describing the actual presentations of mathematical expressions. Computation applications, such as theorem provers and computer algebra systems, require input of expressions containing the semantics.

Because of the complexities of mathematical expressions, the machine representations of mathematics are therefore not trivial to use. Older formats are designed exclusively either for typesetting or computing. Typesetting languages such as TEX allow mathematicians to specify the exact notations of mathematical expressions in printed documents. System dependent, semantics-based formats such as programming languages allow mathematicians

to communicate mathematical ideas to mathematical software packages. New, emerging formats attempt to accommodate both needs: They aim to facilitate exchange and preservation of mathematical knowledge in various contexts, including the Internet. MathML can be used to specify the exact notation and semantics of mathematical expressions. It also can be used to specify the correspondences between different formats of the expression. OpenMath is a system independent, extensible format to accommodate the need of communicating the semantics of advanced mathematics.

While appreciating the complexity of machine representation for mathematics, this chapter reinforces our initial motivation of enabling handwriting recognizers to process handwritten mathematical expression input. Existing methods to input mathematics are difficult to use. Handwriting is a natural way for entering and interacting with mathematical knowledge. Enabling pen-based devices for inputting mathematical expressions can facilitate and encourage the use of computers to manage mathematical knowledge and to solve mathematical problems.

3.1 TEX

TEX (Figure 3.1(d)) has been the standard for typeset mathematics in scholarly journals for some time. This format is useful for mathematicians because (1) a large symbol set is available, (2) two-dimensional relationships between symbols such as subscripts and superscripts can be represented, and (3) quality documents including mathematical expressions can be produced. Other attractive features of this system are include the facts that (4) it is freely available and (5) its macro expansion mechanisms simplify manual markup of frequently-used expressions.

Even well-formed TEX markup of mathematical expressions cannot be served as the input format for mathematical computation software. TEX markup can contain none or some of semantics of the mathematical expression. Having the mathematical expressions to be

```
<math xmlns=
  "http://www.w3.org/1998/Math/MathML">
  <apply>
    <int/>
    <bvar>
      <ci>x</ci>
    </bvar>
    <ci>x</ci>
  </apply>
</math>
```

(a) Content MathML

```
<math xmlns=
  "http://www.w3.org/1998/Math/MathML">
  <mrow>
    <mo>&Integral;</mo>
    <mi>x</mi>
    <mo>&InvisibleTimes;</mo>
    <mrow>
      <mo>&DifferentialD;</mo>
      <mi>x</mi>
    </mrow>
  </mrow>
</math>
```

(b) Presentation MathML

```
<OMOBJ xmlns="http://www.openmath.org/OpenMath"
  version="2.0" cdbase="http://www.openmath.org/cd">
  <OMA>
    <OMS cd="calculus1" name="int"/>
    <OMBIND>
      <OMBVAR>
        <OMV name="x"/>
      <OMBVAR>
      <OMV name="x"/>
    </OMBIND>
  </OMA>
</OMOBJ>
```

(c) OpenMath

```
$\int \! x{dx}$
```

(d) TeX

```
int(x,x);
```

(e) Maple (Computer Algebra System)

Figure 3.1: $\int x\,dx$ in five different formats

displayed as intended does not necessary imply that all necessary semantic and hierarchical structure is observed in the underlying markup. There always exists more than one way to typeset the same mathematical expression. Many authors are only concerned with the print representation of expressions and the encoding underlying structure of expressions is ignored. For example, $(a+b)^2$ can be encoded either as (1) `$(a+b)^2$` or (2) `${(a+b)}^2$`. The mathematicians would intuitively know that it is the expression $a+b$ that gets squared, but the first encoding indicates that only the closing parenthesis is squared as in "$)^2$".

To sum up, TEX satisfies the need of the mathematicians for typesetting mathematics in printed documents and leaves the expressions with no possibility for further computation.

3.2 Programming Languages

Programming languages have been one way to communicate the exact mathematical semantics to mathematical software packages. Each of these languages is system-dependent. Because the design of these languages is dependent on the software's features and designers' opinions, certain systems are more natural for solving specific kinds of mathematical problems. C and Java provide predefined mathematical libraries for elementary numerical mathematics. Maple (Figure 3.1(d)) is a computer algebra system specializing in symbolic computation. Matlab specializes in matrix computations. PVS [7] is built for theorem proving. Learning different programming languages takes considerable effort to be proficient, so many mathematicians are reluctant to switch from one mathematical software system to another.

3.3 MathML

MathML [1] (Figure 3.1(a),(b)) is an XML standard to put mathematics in web documents. *Presentation* MathML allows mathematicians to display mathematical expressions. *Content MathML* allows mathematicians to encode the semantics of the expressions in a system-

independent manner. In addition to fulfilling the purposes of older formats, *mixed* and *parallel* markup are available to specify correspondences between two or more different formats so that the expressions can be reused in many applications.

3.3.1 Presentation MathML

Presentation MathML is the counterpart of TEX for web documents: It is for visual communication of mathematical ideas. This format is superior to TEX in some ways for visual communication: Exact presentation of the expressions can be adjusted automatically according to expressions' surroundings, such as document's background colour and web browser's window size. More lexical semantics can be annotated by Presentation MathML: For example, special tags such as `<mi>` (identifier) and `<mo>` (operator) are available in Presentation MathML to specify types of symbols. In TEX, such information is implicit and is assumed by the reader.

3.3.2 Content MathML

Content MathML is a system-independent counterpart to programming language expressions: It is for specifying the exact meaning of mathematical expressions. This standard natively covers mathematics up to high school level. An extension mechanism is available to encode mathematical semantics that are not covered natively in the standard. In this format, no actual notations of the mathematical expressions are specified: The actual notations are left to the users' applications, such as web browser, to specify. Because Content MathML is unambiguous and is semantics-based, it can be used as an input format for mathematical computation software.

3.3.3 Mixed Markup

It may not be sufficient to specify the mathematical expressions in only one format. Sometimes, we may want to have the same expressions to be available for both rendering and computation. One example would be the case where the authors use custom presentation of mathematical notations in web documents while wanting the same expression to still be available for computation. Another example would be the case where the authors define the notations of mathematical functions outside of the Content MathML standard.

In this kind of markup, two or more formats are associated. Alternative forms of the expressions are contained in annotations. Such annotations can contain any alternative format such as MathML, OpenMath [6], TEX or computer algebra system input. For example, if we would like to specify the rendering, OpenMath markup, and Maple input of $\int x\,dx$, we can include the following in a web document:

```
<semantics>
  <apply>
    <int/>
    <bvar>
      <ci>x</ci>
    </bvar>
    <ci>x</ci>
  </apply>
  <annotation-xml encoding="MathML-Presentation">
    <mrow>
      <mo>&Integral;</mo>
      <mi>x</mi>
      <mo>&InvisibleTimes;</mo>
      <mrow>
        <mo>&DifferentialD;</mo>
        <mi>x</mi>
      </mrow>
    </mrow>
  </annotation-xml>
  <annotation-xml encoding="OpenMath">
    <OMA>
      <OMS cd="calculus1" name="int"
           xmlns="http://www.openmath.org/OpenMath"/>
```

```
      <OMBIND>
        <OMBVAR>
          <OMV name="x"/>
        <OMBVAR>
        <OMV name="x"/>
      </OMBIND>
    </OMA>
  </annotation-xml>
  <annotation encoding="Maple">
    int(x,x);
  </annotation>
  <annotation encoding="TeX">
    $\int x \, {dx}$
  </annotation>
</semantics>
```

3.3.4 Parallel Markup

Associating two formats of mathematical expressions at the top level may not be sufficient. Parallel markup can be used to associate subexpressions in different formats. In principle, we can assign semantics to each subexpressions recursively in expression trees. Subexpressions as small as a single symbol can have meanings assigned. This kind of parallel markup is called *Fine-grained* parallel markup. This approach is general and works for all kinds of annotations, including non-XML ones. The following example shows how Fine-grained parallel markup can be used to associate Presentation MathML elements to Content MathML elements:

```
<mrow>
  <semantics>
    <mo>&Integral;</mo>
    <annotation-xml encoding="MathML-Content">
      <int/>
    </annotation-xml>
  </semantics>
  <semantics>
    <mi>x</mi>
    <annotation-xml encoding="MathML-Content">
```

```
      <ci> x </ci>
    <annotation-xml>
  </semantics>
  <mo>&InvisibleTimes;</mo>
  <semantics>
    <mrow>
      <mo>&DifferentialD;</mo>
      <mi>x</mi>
    </mrow>
    <annotation-xml encoding="MathML-Content">
      <bvar> <ci> x </ci> </bvar>
    </annotation-xml>
  </semantics>
</mrow>
```

The `<semantics>` elements specify pairs of expressions to be associated. In this example, a fragment of Presentation MathML is associated with Content MathML, which is enclosed by `<annotation-xml>`. The downside is that this kind of markup leads to very verbose documents. Correspondences between formats can also be specified by *cross-references*. This method leads to less verbose documents than fine-grained markup does, but the cross-references can be only be used in XML annotations. The following shows how `id` and `xref` be used in cross-referenced parallel markup:

```
<semantics>
  <apply id="e.1">
    <int id="e.1.1"/>
    <bvar id="e.1.2">
      <ci id="e.1.2.1">x</ci>
    </bvar>
    <ci id="e.1.3">x</ci>
  </apply>
  <annotation-xml encoding="MathML-Presentation">
    <mrow xref="e.1">
      <mo xref="e.1.1">&Integral;</mo>
      <mi xref="e.1.3">x</mi>
      <mo>&InvisibleTimes;</mo>
      <mrow>
        <mo xref="e.1.2">&DifferentialD;</mo>
        <mi xref="e.1.2.1">x</mi>
```

```
      </mrow>
    </mrow>
  </annotation-xml>
</semantics>
```

Note that one-to-one correspondences between two formats of the expressions may not be found. Some parts of the expressions may only belong to Presentation MathML. For example, `<mpadded>`s add spaces around the expressions and no equivalent is available in formats denoting semantics such as Content MathML.

3.4 OpenMath

OpenMath [6] is an experimental, system-independent, extensible XML standard for encoding the semantics of mathematics (Figure 3.1). The purpose of OpenMath is to encode the precise semantics of the mathematical expressions. Unlike Content MathML, OpenMath is natively extensible: New semantics can be defined upon writing new *Content Dictionaries* and no external references are needed. As the result, OpenMath accommodates the expanding vocabulary of advanced mathematics better than Content MathML. Although OpenMath and Content MathML share the common goal of encoding precise mathematical ideas, subtle differences in design between these format make these formats not completely compatible to each other (Figure 3.2). The differences exist because of designers' opinion on what and how mathematical ideas should be represented.

The researchers are still experimenting with the idea of enabling different mathematical software packages to communicate through a system-independent, extensible format. One motivation of having such format is to make use of the best mathematical software packages available to solve mathematical problems in advanced mathematics. This concept is demonstrated by the MONET (Mathematics on the NET) project [5] [17] [25]. In this project, web services offer some advanced mathematical computations. Different web services are based on different mathematical software packages. All mathematical problems in this web ser-

```
<apply>
  <partialdiff/>
  <bvar><ci> x </ci></bvar>
  <bvar><ci> y </ci></bvar>
  <apply>
    <ci type="function"> f </ci>
    <ci> x </ci>
    <ci> y </ci>
  </apply>
</apply>
```

```
<OMA>
  <OMS cd="calculus1" name="partialdiff"/>
  <OMA>
    <OMS cd="list1" name="list"/>
    <OMI> 1 </OMI>
    <OMI> 3 </OMI>
  </OMA>
  <OMA>
    <OMV name="f"/>
    <OMV name="x"/>
    <OMV name="y"/>
  </OMA>
</OMA>
```

Figure 3.2: Differences between Content MathML and OpenMath: Content MathML's `partialdiff` (left) can accept the actual variables as bound variables but OpenMath's equivalent (right) requires a list indicating the index of variables.

vices architecture are encoded using OpenMath because OpenMath is a system-independent format that accommodates the needs of advanced mathematics.

Close relationship between OpenMath and some machine encodings of mathematics are found. An automated tool for translating between OpenMath and Content MathML has been developed [26]. Correspondences exist between the structure of OpenMath mathematical objects and those of Content MathML objects. Having mathematical software packages, such as *Maple*, to take OpenMath inputs has been a necessity in the MONET project. An OpenMath-Maple translator is developed to enable ORCCA's mathematical web services to communicate to other web services components while using *Maple* to solve mathematical problems [25]. Many structural similarities are found between OpenMath and the *Maple* programming language.

Chapter 4

Requirements for a Mathematical Expression Handwriting Recognizer

There has been much interest in recognizing handwritten or typeset mathematical expressions. While many experimental systems have been developed by researchers around the world, no system achieves an acceptable recognition rate for a wide variety of handwritten mathematical notations. Reviewing the existing literature, we realize that many researchers focused only on specific aspects of recognition, built their application for a small area of mathematics, or tried to solve many subproblems at once [14] [15] [20] [28].

Developing an useful mathematical expression handwriting recognizer involves cooperation between mathematicians and computer scientists. Individual aspects of recognizing mathematical expressions are covered by different components. These individual components must communicate between each other to correct the intermediate results of recognition. Depending on whether online or offline recognition is chosen, the method and exact implementation of the components may be adjusted accordingly.

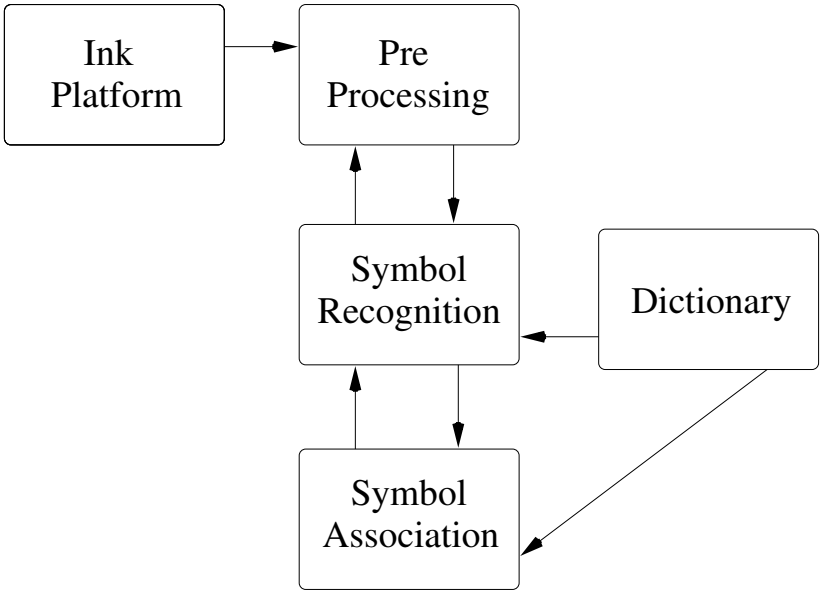

Figure 4.1: Communication between components

4.1 Components

Developing an useful recognizer for handwritten mathematical expressions is a multi-disciplinary problem. Expertise from both mathematics and computer science are needed. Understanding of hardwares' features and limitations helps determining what can be collected in the digital ink, the electronic representation of handwriting. Knowledge of image processing leads to methods to determine the identities of symbols and two-dimensional relationships between subexpressions. Exposure to mathematical literature helps determining proper associations between symbols in well-formed expressions.

No single one of these components can solve the whole problem of recognizing mathematical expressions. Each component solves a subset of the whole problem. To complement the functionalities of the different components, they must communicate between each other to correct errors in recognition (Figure 4.1).

Handwriting is stored in a digital ink data format, the machine representation of handwriting. Many components rely either directly or indirectly on the format. Preprocessing performs smoothing and normalization, working directly on this format. This step needs in-

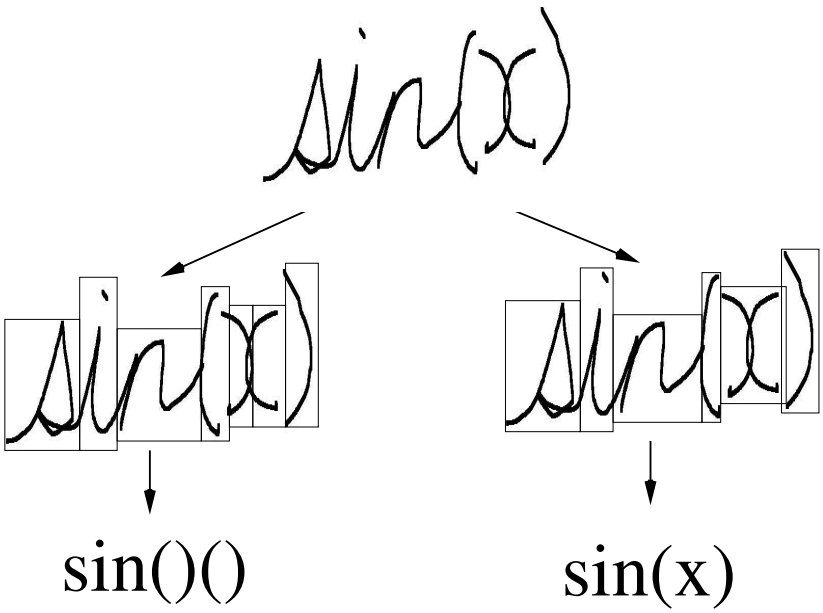

Figure 4.2: Two possible strokes groupings for expression $sin(x)$: "$sin()()$" is apparently not the intended result of recognition upon consulting the dictionary.

formation to determine if a particular stroke is noise or not. The preprocessed data is made available to symbol recognition and structural analysis. How the handwriting is represented affects the efficiency of these two steps.

Dictionary methods constrain the results of symbol recognition and structural analysis (Figure 4.2). In symbol recognition, the dictionary is consulted to determine the possible identities of the symbols. In structural analysis, the dictionary is used to identify meaningful associations between symbols and expressions.

4.1.1 Platform Independent Digital Ink Data Format

There are several existing digital ink data formats such as JOT [3] and UNIPEN [4]. Many of these formats are proprietary and platform-dependent. InkML [2] is an emerging standard that aims to be a non-proprietary, platform independent-format for digital ink in the future.

Although these formats' common goal is to capture what has been written on the pen-based devices, differences between these formats exist [31]. Many types of information may be included in these data formats: Other than the actual x-y coordinates of points in the

strokes, information such as pressure and pen button status can be stored. The design of a format should be able to describe handwriting well enough so that can be analyzed by a variety of criteria. What can be recorded in the data also depends on the functionality of the hardware used. For example, a mouse cannot detect pressure applied in strokes.

We need a semantically rich, platform-independent format for the pen-based applications in the future. The reason is that the need for collecting, transmitting, processing, and presenting handwriting by a variety of devices is increasing as more handwriting devices become available. By using a common format, the methods developed to analyze handwriting can be made available in different devices with reduced development time. Such a format should handle a variety of inputs because pen-based devices can collect writing as well as drawings. The format should contain enough information so that the inputs can be analyzed and be stored in a semantics-based, searchable form. For example, the handwriting must able to include transcribed text so that the writing can be searched.

The handwritten mathematical expressions must be stored in such a format so that pen-based devices can be used for collaboration and mathematical computation. With the increasing computation power of these devices, they can be used for increasingly sophisticated mathematical computations. Before having the mathematical expressions evaluated, the handwritten mathematical expressions must be analyzed. How they are analyzed is partially dependent on the effectiveness of the digital ink data format. Having a platform-independent format can facilitate collaborations using different devices. The expressions can be written on one device and be passed on to others. Upon transmitting the handwritten strokes to other devices, the expressions may be extracted from the handwriting. The extracted expressions can later be stored in documents or be evaluated by software.

4.1.2 Preprocessing

Before attempting to identify individual symbols and to determine relationships between subexpressions, it is necessary to tidy up the handwriting collected because strokes recorded

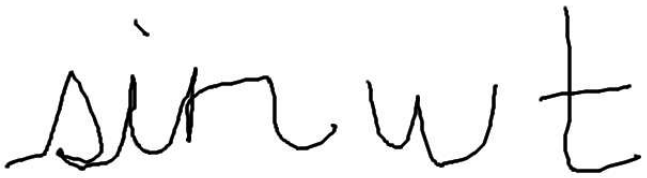

Figure 4.3: Cursive handwriting of $sin\omega t$: One stroke does not always correspond to one symbol

are subject to imperfection [15] [20] [28] [32]. Some tasks are performed to simplify other steps of recognition: The relevant parts of handwriting are extracted and any necessary adjustments to the data are made. Noise reduction eliminates sections of the handwriting that are not relevant. Size normalization involves rescaling the input strokes because not all handwritten symbols are of exactly the ideal sizes. Deslanting puts the handwriting in the orientation that is needed for analysis. Segmentation separates or groups the strokes to accommodate the fact that one stroke does not always correspond to one symbol (Figure 4.3).

4.1.3 Symbol Recognition

This step determines the potential identities of the individual symbols. Handwriting is subject to ambiguities and individuals' style. The methods for recognizing individual letters in languages with Latin-based writing are now available for use in many pen-based devices.

New, effective methods for symbol recognition are needed for mathematics because the number of mathematical symbols is significantly larger than the number of Latin letters. Algorithms for analyzing individual letters in natural languages may not be sufficient for mathematical symbols. Many possible methods exist, but not every method is appropriate for treating handwritten mathematical symbols. For example, simple *Elastic Matching* is not appropriate for a large symbol set because (1) it is a time consuming algorithm and (2) the recognition speed increases proportionally with the number of the letters [28].

Feature-based symbol recognition algorithms are found to be more suitable for recogniz-

ing mathematics symbols because they can handle large sets of symbols [32]. This approach extracts characteristics of the individual symbols such as loops and cusps, number of intersections, distance between start and end points, and order of strokes. The symbols are identified based on their possibly unique set of characteristics.

The exact identity of a particular symbol might not be determined in this step. If this is the case, structural analysis and the dictionary may be consulted.

4.1.4 Structural Analysis

The mathematical notations often rely on two-dimensional relationships to convey meaning. For example, both 2^x and $2x$ contain the same digit and letter but the expressions' meanings are different. Operators using two-dimensional relationships include square root, fraction, matrix and summation. In natural language handwriting, there are few two-dimensional relationships. A useful recognizer or scanner for mathematical expressions must recognize the two-dimensional relationships between the symbols. Because the present handwriting recognizers cannot recognize such relationships between symbols, existing handwriting recognition methods for natural languages cannot be simply applied to mathematical expressions.

Although size and location of the individual symbols is important in determining the two-dimensional relationships between the symbols in an expression, the exact two-dimensional relationships cannot be determined without some knowledge of mathematics. In other words, when no knowledge of mathematics is used more than one version of symbol grouping and association can be derived theoretically, even if the symbols are aligned perfectly. Consider the expression

$$\sum_{i=0}^{\infty} i^2$$

After the summation sign is written, we can expect three subexpressions to be written below, above and to the right of the summation sign. This assumption is made upon knowing the usage of the summation sign. When $i = 0$ is written below the summation sign, we know

that these three symbols form a proper subexpression because of the background knowledge of mathematics. This subexpression is then associated with the summation sign. Note that we don't associate the individual symbols in the subexpression, namely i, $=$ and 0, to the summation sign separately. Likewise, ∞ is associated with the summation sign. Finally, i^2 is written and this subexpression is associated with the summation sign as well. Note that we don't associate the individual symbols in this subexpression, namely i and 2, to the summation sign separately. These associations are made based on knowledge of mathematical syntax. Even though size and exact positions of the individual symbols can help in making associations, many combinations of associations can still be made.

4.1.5 Dictionary for Mathematics

The success of natural language handwriting recognition partly depends on the use of context information to resolve ambiguities in the handwriting. A string-based dictionary can contain information on what users intend to write. This component is used with the assumption that users always intend to spell correctly. A dictionary helps the recognizer narrow down the potential final result of recognition by eliminating the guesses that do not appear in the dictionary.

Observing the success of recognition rate for natural language handwriting, we are interested in establishing a dictionary for mathematics. Unfortunately, the methods to represent the context information in natural languages are not sufficient for representing mathematics. In a dictionary for natural languages, strings are sufficient to store individual words. Strings are not appropriate for representing mathematical expressions because they do not represent the mathematical expressions' hierarchical structure.

A dictionary structure for mathematics should be able to represent the two-dimensional and the hierarchical structure of mathematical expressions so that proper notation usage can be recorded. Investigating the appropriate architecture to represent mathematical notation usages is the focus of this thesis.

4.2 Online and Offline Recognition

Two modes of recognition are available: *online* and *offline*. In online recognition, the recognition starts as soon as the user starts writing. In offline recognition, the recognition starts after the user finishes writing. A handwriting recognizer can use either online or offline recognition. Because the strokes are presented one after another, online recognition can start as soon as some of the strokes are available. Offline recognition is also possible by analyzing all strokes at once after the user finishes writing. The offline method is used by the document scanners because all information is available to the recognizer at once.

The decision about which kind of recognition mode is used affects how the components cooperate. In online recognition, the components need to accommodate the fact that the intermediate results are not always well-formed and complete at both the symbol level and the expression level. In offline recognition, well-formed expression can be assumed because the complete expression is presented at once. When online recognition is used, the intermediate results are generated as the user writes. The intermediate results are based on what is already written. The intermediate results are not necessarily based on the previous ones: Adjustments may be needed by communicating between different components during writing. The order of the symbols and the strokes affect what the intermediate results are.

To illustrate the the generation of intermediate results in online recognition, let's examine the example $\sum_{i=0}^{\infty} i^2$ again. Let's also assume the symbols are written in the following order: $\sum$, i, $=$, 0, ∞, i, 2. The symbol identity may change as the user writes. For example, the recognizer may have recognized the minus sign immediately after the first stroke of $=$ is written. It takes the second horizontal stroke to complete the equal sign in this case. The symbol groupings may be changing as well. After $\sum_{i=0}^{\infty}$ is written, the recognizer receives i as the subexpression. Upon realizing that 2 is written as the superscript of i, the recognition result is updated to represent that the expression following the summation is in fact i^2.

Chapter 5

Methodology

Investigating the notions of well-formed, desirable expressions cannot be done without examining the expressions being used by a diverse population of mathematicians. We considered several possible directions to collect data on actual mathematical notation usage. None of the methods satisfies all the needs of gathering all possible usages of mathematical notation. Based on each method's tradeoffs, we chose to build our database of mathematical expressions from mathematical articles in the arXiv database [8]. In order to analyze the mathematical expressions, they are translated first from TEX to MathML and then canonicalized. In this way, characteristics of the mathematical expressions can be analyzed according to our criteria: subexpression, identifier and operator usage.

5.1 Data Collection

To study the actual, empirical usage of mathematical notation, it is necessary to collect the input from some appropriate source. Several possible avenues that exist include

- to log input from a mathematical software system,
- to interview mathematicians in person,
- to collect documents from a set of authors,

- to use the articles from particular journals.

Each of these methods has its advantages and disadvantages. A disadvantage is that the data collected from these sources are likely to be biased and cannot be taken as representative. The logged input from a software system would be influenced by the characteristics and functionality of the particular system. Only certain types of mathematics can be collected from each particular software system because each software system has its own strengths and lacunae. For instance, theorems are usually proved by a theorem prover instead of a computer algebra system. The documents from a small set of authors, the articles from particular journals, or the interviews of mathematicians are likely to be biased in their mathematical notation usage. These sources only allow us to examine the preferences of a small number of individuals. An advantage of conducting interviews and logging input is that mathematics from various levels may be collected.

Instead of trying any of the methods above, we chose to obtain the input of mathematical expressions from the articles in to the arXiv e-Print server [8]. This automated electronic archive server is based at Cornell University, and is monitored so that its contents conform to academic standards. This is a standard preprint server used by the mathematical community. We chose to use the mathematical articles that were submitted to this source from 2000 to 2004. This date range was chosen because it corresponds to the adoptions of the new Mathematical Subject Classification scheme. The advantages of using these articles to build our database include

- A comprehensive set of disciplines in mathematics are covered.
- The articles are sorted by areas of mathematics using a standard classification scheme.
- High quality data is available because the articles' content is monitored for scholarly standards.

The quality and organization of this source of data outweigh its disadvantages. This source's disadvantages include

- More elementary levels of mathematics are ignored.
- Disciplines of mathematics are not represented equally.
- Older mathematical notation usage is not represented because the articles are relatively new.

We decided to use this source of input because a standard classification scheme is used: a Mathematical Subject Classification is assigned to most of the articles by the authors. This scheme is used by two reviewing databases, Mathematical Reviews (MR) and Zentralblatt MATH (Zbl). The current classification scheme, MSC (2000) [9], is a revised scheme that is used by these databases. By using a standard classification scheme, more samples of mathematical expressions can be added into our test data from other sources in the future. There are over 5,000 two-,three-, and five-letter classifications, each corresponding to a specific discipline of mathematics. For example, "62" corresponds to Statistics; "62L" corresponds to Sequential methods; and "62L15" Optimal stopping (Figure 5.1).

5.2 Data Preparation

We follow these steps to prepare our database of expressions before performing analysis:

The First Step was to download the sources and PDF files of all articles on mathematics of the five year period 2000–2004 from arXiv. Most articles submitted to arXiv during this time-frame are classified using MSC (2000). To have enough articles to examine while enabling us to investigate notation usage in different areas of mathematics, articles are grouped by their two-digit classification. The count of the articles in each classification is given in figure 5.1. 22,289 articles were submitted to arXiv during this five year period. Among these articles, 21,677 came with TEX source. Altogether these files consist of 794 MB of TEX source and 4.65 GB of PDF files.

#	Cl.	Description	#	Cl.	Description
19	00	General	43	44	Integral transforms, operational calculus
39	01	History and biography	34	45	Integral equations
228	03	Mathematical logic and foundations	1,066	46	Functional analysis
1,212	05	Combinatorics	543	47	Operator theory
164	06	Order, lattices, ordered algebraic structures	164	49	Calculus of variations and optimal control; optimization
48	08	General algebraic systems	171	51	Geometry
1,383	11	Number theory	435	52	Convex and discrete geometry
108	12	Field theory and polynomials	1,725	53	Differential geometry
667	13	Commutative rings and algebras	226	54	General topology
2,458	14	Algebraic geometry	627	55	Algebraic topology
240	15	Linear and multilinear algebra; matrix theory	1,637	57	Manifolds and cell complexes
861	16	Associative rings and algebras	920	58	Global analysis, analysis on manifolds
760	17	Nonassociative rings and algebras	877	60	Probability theory and stochastic processes
404	18	Category theory; homological algebra	105	62	Statistics
239	19	K-theory	209	65	Numerical analysis
1,189	20	Group theory and generalizations	237	68	Computer science
472	22	Topological groups, Lie groups	113	70	Mechanics of particles and systems
185	26	Real functions	34	74	Mechanics of deformable solids
123	28	Measure and integration	69	76	Fluid mechanics
308	30	Functions of a complex variable	13	78	Optics, electromagnetic theory
59	31	Potential theory	6	80	Classical thermodynamics, heat transfer
797	32	Several complex variables and analytic spaces	553	81	Quantum theory
312	33	Special functions	260	82	Statistical mechanics, structure of matter
295	34	Ordinary differential equations	48	83	Relativity and gravitational theory
746	35	Partial differential equations	6	85	Astronomy and astrophysics
706	37	Dynamical systems and ergodic theory	15	86	Geophysics
52	39	Difference and functional equations	96	90	Operations research, mathematical programming
21	40	Sequences, series, summability	42	91	Game theory, economics, social and behavioral sciences
88	41	Approximations and expansions	35	92	Biology and other natural sciences
290	42	Fourier analysis	115	93	Systems theory; control
143	43	Abstract harmonic analysis	128	94	Information and communication, circuits
43	44	Integral transforms, operational calculus	12	97	Mathematics education

Figure 5.1: Mathematical Subject Classification (2000) and number of articles in each classification

The Second Step was to extract the mathematical expressions from the articles' TEX source and translate them to Presentation MathML. Note that the surrounding text accompanying the expressions is not examined. Although TEX has became the standard to typeset mathematics, this format is not suitable for our analysis because:

- Author-defined macros are often used in the expressions.
- The expressions may be contained in the hidden macros.
- Only visual grouping of expressions is given through TEX. The semantic grouping and the logical structure are not apparent in underlying markup (Figure 5.2).

To overcome these problems, the TEX to MathML translator [10] developed by the ORCCA lab was used.

The Third Step was to canonicalize the MathML expressions so that two identical expressions would have syntactically equivalent MathML markup (Figure 5.3). We wanted to remove multiple representations of the same expressions where possible. This step provides transformations to remove the irrelevant attributes and elements, and to normalize the use of some elements. This is detailed in Appendix A. Some notable examples of the conversions include

- removing colour-related information from all tags
- removing `<mpadded>` (adjust space around content) and `<mspace>` (space) to eliminate spacing information specific to a particular expression
- transforming `<mrow>`s (horizontally group sub-expressions) with specified parenthesis to `<mfenced>` (expression inside pair of fences)
- transforming trivial `<mmultiscripts>` (multiscripts) to `<msub>` (subscript) or `<msup>` (superscript)

We have developed and used our software to canonicalize MathML expressions.

5.2.1 TEX to MathML Translation

The TEX to MathML translator is an automated tool to make the mathematical expressions in legacy documents available in web documents [10] [29] . It attempts to handle the differences between these markup languages while preserving the semantics in the mathematical expressions. This software is used extensively in preparing our data, as described previously.

Not all of the complexities of TEX are handled by our conversion from TEX to MathML. Some complex expressions were not translated correctly and some subexpressions were

```
${\int x}^{{2}{2}} dx$
```

```
<math xmlns=
  "http://www.w3.org/1998/Math/MathML">
  <mrow>
    <mo>&Integral;</mo>
    <msup>
      <mi>x</mi>
      <mn>22</mn>
    </msup>
    <mo>&InvisibleTimes;</mo>
    <mrow>
      <mo>&DifferentialD;</mo>
      <mi>x</mi>
    </mrow>
  </mrow>
</math>
```

Figure 5.2: $\int x^{22}dx$: Presentation MathML exhibits logical structure of expressions

```
<math xmlns=
  "http://www.w3.org/1998/Math/MathML">
   <mi> f </mi>
   <mfenced>
      <mi> x </mi>
   </mfenced>
</math>
```

```
<math xmlns=
  "http://www.w3.org/1998/Math/MathML">
   <mi> f </mi>
   <mrow>
     <mi> ( </mi>
     <mi> x </mi>
     <mi> ) </mi>
   </mrow>
</math>
```

Figure 5.3: Two different legal ways to markup $f(x)$

grouped improperly while some expressions cannot be translated altogether. This is not very important, however, since we are interested in the common expressions. The first difficulty is that some commands, such as macro expansion and kerning symbols, cannot be handled. The second difficulty is that not all published TEX is error-free. Upon discovering these issues of the translator, we improved its macro expansion and enhanced the error recovery mechanisms significantly.

Initially, only 14354 of the 21677 articles could be processed by the translator. With the improved translator, 19137 articles were processed. Of the articles processed by the translator, 19073 of them were canonicalized. The overall conversion process took about three days of computing time on a 1GHz PC with RedHat Linux operating system. Note

that the articles that were processed by the translator may still contain incorrect MathML. On one hand, this may seem like a major issue in our experiment. On the other hand, since we are interested in frequent expressions and the translator was able to cover the majority of TEX's functionality, the handling of rare uses of TEX is not a problem. All successfully translated and canonicalized expressions occupied about 2.3GB of disk space.

There is not yet a standard method to cover all subtle differences between these two typeset languages. The tool developed by the ORCCA lab is an attempt to discover the differences. We have observed that some TEX constructs, such as kerning, do not have MathML equivalent. We also found that error recovery mechanisms should be available to increase the usability of the translator.

To gather only the expressions that were translated correctly, we developed some heuristics implemented them in software. The details are described in section 5.3.

5.3 Characteristics of Mathematical Expressions

Our first intermediate goal was to establish some criteria to determine the important characteristics of mathematical expressions. Although a large set of identifiers and operators is available in mathematics, we conjectured that each area of mathematics uses only a subset frequently. Although combinations of identifiers and operators can form many expressions, we expect that only certain expressions formed by popular identifiers and operators are used frequently. The frequently occurring identifiers, operators and expressions may together be used to characterize areas of mathematics. We have developed our software to gather and analyze this information.

5.3.1 Identifiers

The first part of our analysis counts the occurrences of single-letter identifiers for each Mathematical Subject Classification. Although many Roman and Greek letters are used

in mathematics, we believe that only a subset is used frequently in any particular area of mathematics. Which identifiers are frequently used is a characteristic of the area. This assumption is based on the observation that choices of identifiers are based on conventions.

We have written software to count the occurences of identifiers. In Presentation MathML, the identifiers are enclosed in `<mi>` elements. We can count the occurrences of all single-letter identifiers enclosed in this way. In theory, we can just collect all `<mi>`s containing only one letter. In practice, this is not the case because some non-identifiers are also put in `<mi>`s. Translating the single-letter from TEX to MathML depends on heuristics because the TEX markup does not differentiate between identifiers or operators. These heuristics are not always correct, however. To overcome this difficulty, we considered only the following as identifiers in the software:

- Latin letters (Unicode `x0041 - 005A`, `0061 - 007A`)
- Accented Latin letters (Unicode `x00C0 - 00D6`, `00D8 - 00F6`, `x00F8 - 00FF`)
- Greek letters (Unicode `x0391 - x03FF`)
- Letterlike symbols (Unicode `x2100 - x214C`)

Printed mathematical expressions use many fonts. Usually, specific fonts are used to express the meaning or other properties of identifiers. For example, $\mathbb{N}$, which is different from N, usually denotes the set of natural numbers. Although it could be sensible to take the fonts into account when counting identifiers, we chose to ignore the font information because fonts are not used in handwriting.

5.3.2 Operators

The next part of our analysis was to count the occurrences of operators in each Mathematical Subject Classification. We believe that in each area of mathematics only a small subset of all operators are used frequently. The analysis is similar to the one for identifiers.

We have developed software to count the number occurences of mathematical operators. In Presentation MathML, the operators are enclosed in <mo> elements. Similar to the case with counting the <mi>s , in theory we could simply count the occurrences of all single-character symbols enclosed by the <mo>. In practice, this is not the case because (1) some <mo>s contains leftover characters from incorrect TEX-MathML translation and (2) parentheses are used frequently in every classification. To solve (1), "_" and thinspace characters in <mo>s were ignored. To solve (2), opening and closing brackets ("(", ")", "[", "]", "{" and "}") were ignored.

5.3.3 Popular Expressions

We conjecture that there is a set of commonly used expressions in each area of mathematics. Because our data was made available in Presentation MathML, we were able to examine the expressions as well as their subexpressions. Without having the expressions converted to Presentation MathML, such analysis would not be possible because TEX gives little or no hierarchical structure.

We have developed software to collect statistics on expressions usage. The expressions are sorted by size. We determined the size of an expression using the number of symbols actually appearing in rendering. From a user's view on writing mathematics, this notion of expression size is useful because the the users only see the symbols that are written. Determining size of an expression by counting the number of elements in the MathML expression tree is not the most useful notion because many elements are to indicate the layout. For example, the size of x^2 (<msup><mi>x</mi><mn>2</mn></msup>) is two according to our rules while there are three elements in the expression tree. The <msup> indicates the two-dimensional relationships between the subexpressions. The following Presentation MathML elements are rendered explicitly:

- <mi> (identifier)

- `<mo>` (operator)
- `<mn>` (number)
- `<mroot>` (root)
- `<msqrt>` (square root)
- `<mfrac>` (fraction)
- `<menclose>` (enclose expression inside notation)
- `<ms>` (string literal)

We considered all subexpressions of sizes greater than or equal to two. In addition to this size requirement, `<mrow>`s and `<mfenced>`s were eliminated if they contained only one child. For example, consider two expressions $(x + y)$ and $x + y$ in MathML:

```
<mfenced>
  <mrow>
    <mi> x </mi>
    <mo> + </mo>
    <mi> y </mi>
  </mrow>
</mfenced>
```

```
<mrow>
  <mi> x </mi>
  <mo> + </mo>
  <mi> y </mi>
</mrow>
```

These two subexpressions should be considered as the same subexpression.

Our analysis gathered information on mathematical notation usage. Such knowledge can help handwriting recognizers to process handwritten mathematical expressions. Without this information, it would be be difficult for a handwriting recognizer to determine the proper groupings between different symbols and operators. We believe that this information can also help building an automatic document classifier because the notation usages can be identifying the characteristics of an area of mathematics. Some expressions may appear in some areas but not others.

5.4 Implementation

Our canonicalization of Presentation MathML was done by an XSLT stylesheet we developed. XSLT was chosen because it is specifically designed for XML transformation: In XSLT, the rules for transformations are specified by templates. The XSLT processor used was `xt`, which is based on the XSLT 1.0 specification.

We performed the tallying of operators and identifiers with a Java program and a shell script. Java 1.5 was used to develop the Java program. Earlier versions of Java's XML API had bugs and could not process large XML files. Two Java APIs were available for processing XML: DOM (Document Object Model) and SAX (Simple API for XML). In our first attempt, the DOM API was used for this task. Because DOM requires the whole XML file to be stored in memory before processing, we found DOM was not appropriate: The files containing the expressions were too large to be processed in reasonable time.

Next we tried to use SAX. This API does not require the whole XML file to be in memory. In this way, each file is processed faster. We used a shell script to rank the identifiers and operators according to their frequency. Overall, tallying identifiers and operators required about 10 minutes on a 3.2Ghz PC running Fedora Linux Core 3.

The popular expressions were identified and counted using a combination of a Java program and a shell script. In our first attempt, the DOM API was used in Java because it provided interfaces for traversing and extracting different parts of the XML fragments. This attempt proved naive because traversing, extracting and storing all expressions could not be done in reasonable time limit (ie. one week). Neither was the SAX interface suitable for such a task because it only allows individual elements to be visited sequentially: Manipulating the structure of XML trees, including enumerating subexpressions, is not allowed. Our approach consists of using both the DOM and SAX interfaces. Each expression was written to a file, using SAX, before letting DOM traverse through it. A shell script counted the number of distinct expressions. This task required about 14 hours on a 3.2Ghz PC running Fedora Linux Core 3.

Chapter 6

Results

We present our results of expression analysis for the database of mathematical expressions. Upon examining the frequency of identifiers and operators, we can see the applicability to handwritten mathematical expression recognition and automated mathematical document classification. The frequently occurring expressions in individual subject classifications point out the forms of expressions that distinguish one subject classification from another. We believe that knowing these forms of expressions helps us to characterize each subject classification.

6.1 Identifiers

We counted the occurrences of each symbol within each Mathematical Subject Classification as well as globally among all articles. We have observed that some identifiers are used more frequently than others in individual classifications as well as overall in all articles. The distribution of identifiers usage is far from even.

A decreasing curve is produced by ranking identifiers from the most to the least frequent (Figure 6.1). The curve decreases quickly for the top identifiers in all articles. This pattern indicates that only a few identifiers are used frequently.

Some identifiers are popular in many subject classifications. By including these popular

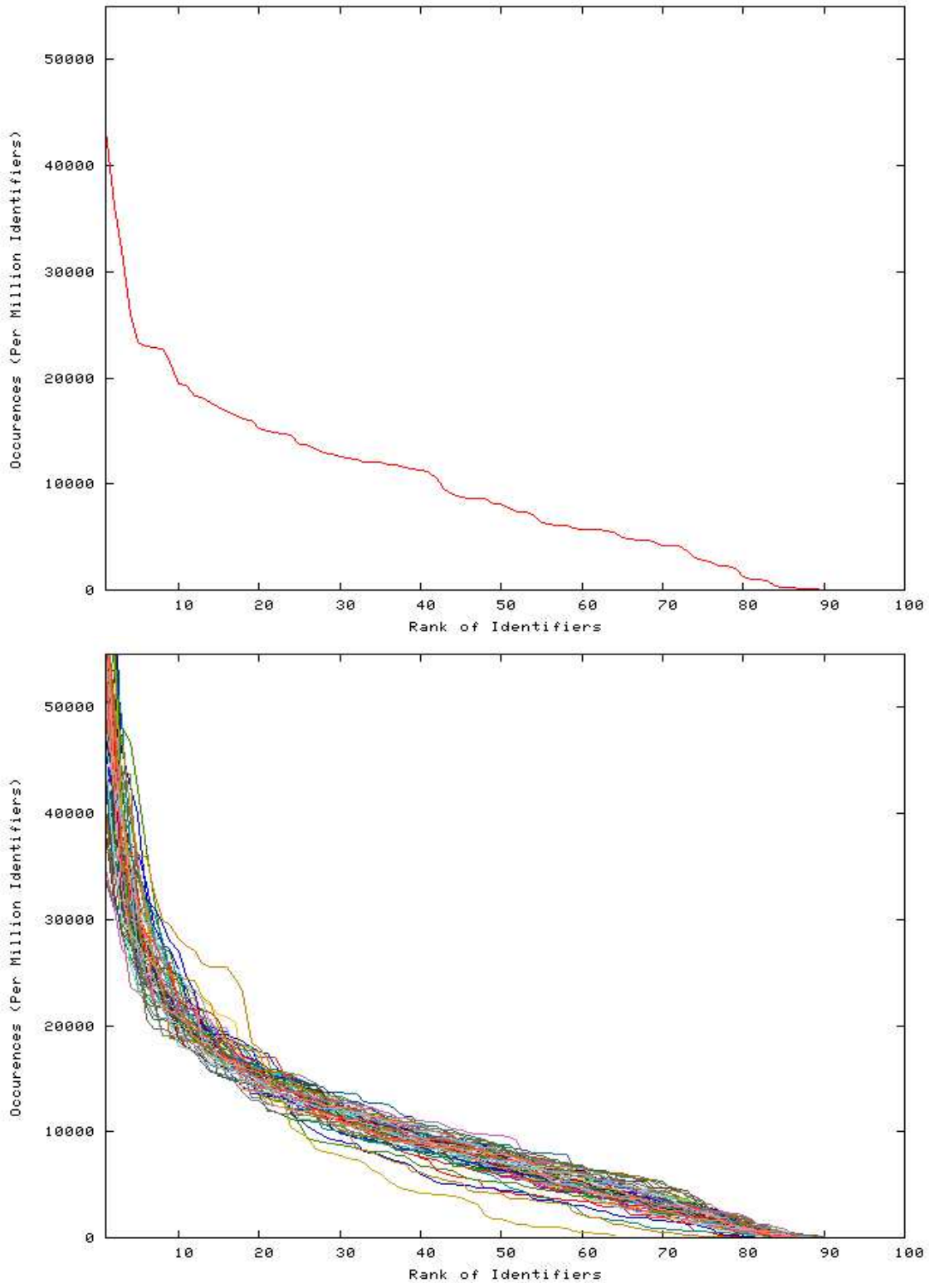

Figure 6.1: Overall identifiers usage in all articles (top). A similar trend occurs in all individual subject classifications (bottom)

all (Raw)		
Ucode	**Op**	**Freq**
003D	$=$	128,715
002D	$-$	116,064
002C	,	112,818
2061		103,090
002B	$+$	79,404
2208	$\ni$	43,942
002A	$*$	29,210
2192	$\rightarrow$	23,818
002F	$/$	23,405
2264	$\leq$	20,088
02DC	$\tilde{}$	16,875
2297	$\bigotimes$	14,242
2211	$\sum$	13,560
003E	$>$	13,528
221E	∞	13,138
00AF	$\bar{}$	12,451
003C	$<$	12,058
22EF	$\cdots$	12,005
2202	∂	11,940
00D7	$\times$	11,294

all (Raw)		
Ucode	**Id**	**Freq**
006E	n	48,150
0069	i	43,280
0078	x	36,240
006B	k	32,060
0074	t	25,967
0058	X	23,369
006A	j	23,038
0070	p	22,832
0041	A	22,791
0061	a	21,435
0064	d	19,457
006D	m	19,263
0066	f	18,235
004D	M	18,135
0073	s	17,659
0072	r	17,248
0043	C	16,915
0053	S	16,487
0047	G	16,074
03B1	α	15,943

Figure 6.2: Top 20 operators and identifiers among all articles and their frequency in million (Note: Unicode 2061 is the "invisible apply" operator.)

identifiers, we cannot see which identifiers distinguish classifications from each other. To see which identifiers distinguish classifications, we remove the 20 overall most popular identifiers from individual classifications. Different sets of identifiers emerge as the result (Appendix D.1).

From the graphs and lists of popular identifiers, we conclude that a small set of identifiers is used frequently in each subject classification, and that each area has its most popular symbols. This supports our suggestion of using the context information to aid recognizing handwritten mathematical expressions. For example, we know that "i" is more popular than "j" overall (Figure 6.2). Using this information, we can disambiguate handwriting of these two identifiers based on how frequently these identifiers are used in practice: The more frequently a particular identifier is used in practice, the more likely it is to be what

user intends to write. This information can also be used in the heuristics for classifying mathematical documents automatically: The list of frequently used identifiers can indicate the areas of mathematics.

6.2 Operators

We performed a similar analysis for operators. We can see that some operators are significantly more popular than others overall in all articles as well as in individual Mathematical Subject Classifications.

A decreasing curve is produced by ranking the frequencies of operators in a graph. This curve is noticeably declining more quickly than the one for identifiers (Figure 6.3). This means a smaller set of operators is popular. Fewer operators can be used to characterize an area of mathematics. A similar trend is found in individual subject classifications.

We discover that some operators are popular in many classifications. To find out which operators actually distinguish the expressions from one classification from others, the 20 overall most popular operators overall were removed from the lists for individual subject classifications. The lists of operators containing distinguishable operators usages emerge (Appendix D.2).

These results for operator usage supports our initial hypothesis: Only a small set of operators is used often in each area. The applications of this result are similar to those for identifiers. The recognizers for handwritten mathematical expressions can use this information to disambiguate between similar operators such as "|" and "\". In addition to the information on identifier usage, the information on operator usage can become part of the heuristics for automated mathematical document classification.

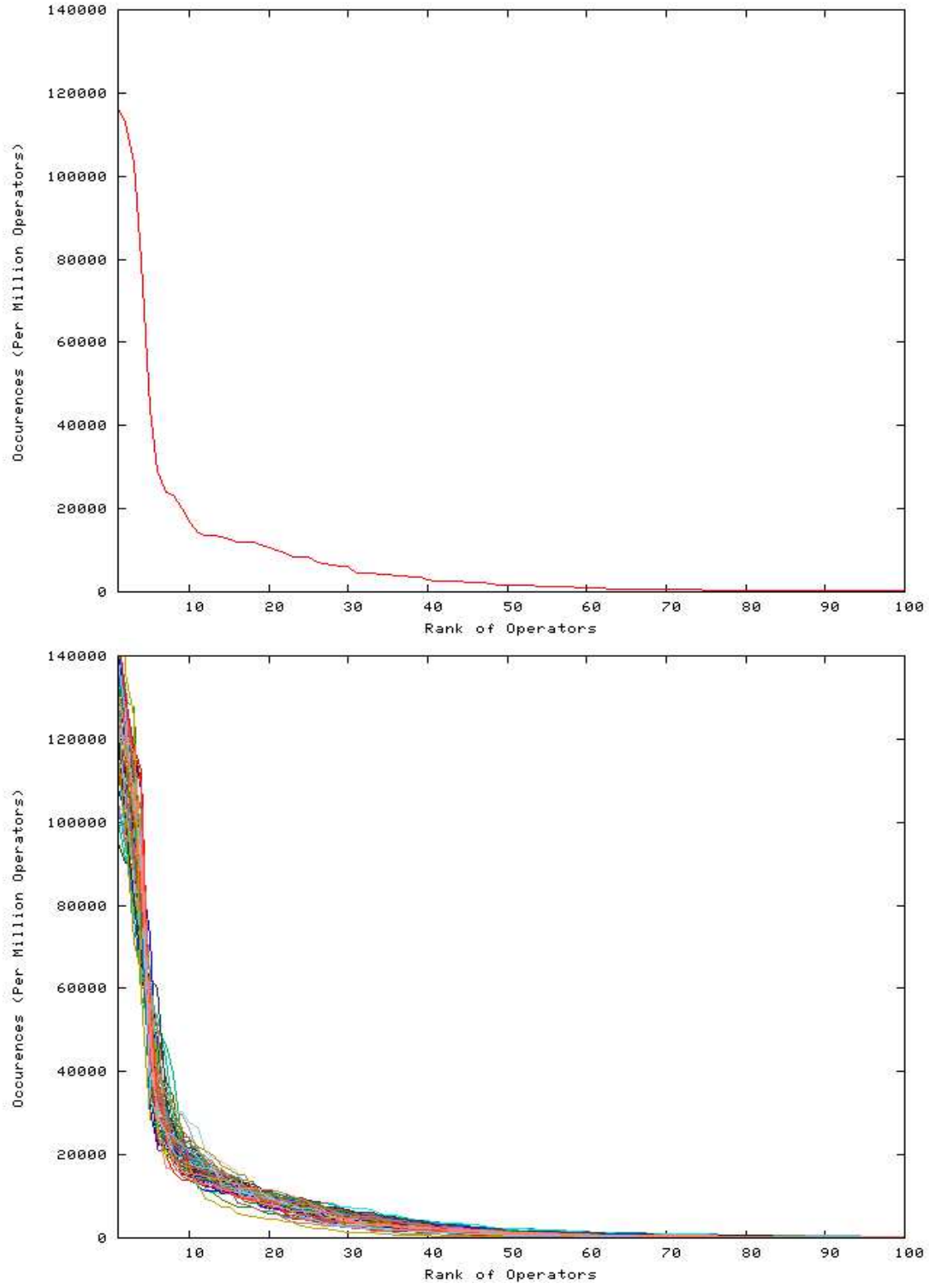

Figure 6.3: Overall operators usage in all articles (top). A similar trend occurs in all individual subject classifications (bottom)

6.3 Expressions

We have performed an analysis of non-trivial expressions and subexpressions occurring in our data sample. We have counted each distinct, non-trivial subexpression that occurs in each subject classification. The trivial expressions are the expressions having size less than two. The definition of expression size was given in section 5.3.3. According to this definition, non-trivial expressions consist of at least two non-layout MathML elements. Note that single-letter identifiers and operators are trivial expressions and have been treated in the previous experiments. The analysis of the non-trivial expressions is more complex.

6.3.1 Popular Expressions

We have found that in each subject classification certain subexpressions are more popular. We have summarized these in appendix F. For example, expressions with the summation sign are popular in classification 11 (Number Theory). Some of the popular expressions detected are results of artifacts of TEX authoring. For example, ij in classification 35 (Partial Differential Equations) is listed as one of the top expressions of size 2. This expression arises as the improperly parsed double subscript. Some of the popular expressions are apparently from specific articles. For example, $M, E \bigotimes \widehat{\Omega}_{\leq \mu} A_i$ is the second overall popular expressions of size 10 (Figure 6.5). This expression is not expected to be popular. The usage of $\otimes$ and Ω should be specific to a small area of mathematics.

The popular identifiers and operators can be found in common expressions. For example, the summation sign is one of the popular operators and it can be found in the popular expressions of size 5. Figures 6.4 and 6.5 give the most popular expressions in all articles. Form this result, we further argue that only a small set of operators and identifiers is used frequently. Examining the popular expressions, the usage of operators can be extracted.

This analysis helps us to know which two-dimensional structure to expect upon identifying different identifiers, operators and subexpressions. For example, 2^x and $2x$ are obviously

all (Sz: 2)	
#	Expr
489128	-1
99799	x_1
86757	ij
77211	$2n$
63190	a_1
53483	x_0
51748	x_2
50248	x_i
46185	L^2
44859	$2k$
44673	(x,y)
43556	i_1
39373	z_1
38989	c_1
37894	a_i

all (Sz: 3)	
#	Expr
124984	$n-1$
104930	$\frac{1}{2}$
88735	$n+1$
69340	$i=1$
50466	$k-1$
48712	$i+1$
48539	$k+1$
37959	$j=1$
37658	$i-1$
36118	$1/2$
25509	i,j
25405	$m-1$
24202	$p-1$
22422	$k=1$
22111	$n-2$

all (Sz: 4)	
#	Expr
12900	$-1/2$
7972	$2n+1$
7093	$\lim_{n\to\infty}$
6718	$2n-1$
5900	$-1,1$
5515	$2k+1$
5131	$\frac{d}{dt}$
4443	$-\frac{1}{2}$
4197	$2k-1$
3090	S^{n-1}
2874	(x_1,x_2)
2846	$\int_{-\infty}^{\infty}$
2788	$2m+1$
2770	$2i-1$
2737	x_{n-1}

all (Sz: 5)	
#	Expr
12844	$\sum_{i=1}^{n}$
5543	$\sum_{j=1}^{n}$
4315	$\sum_{n=0}^{\infty}$
4271	$\sum_{k=1}^{n}$
4159	$\sum_{n=1}^{\infty}$
3173	$\sum_{i=1}^{k}$
3063	$\prod_{i=1}^{n}$
3060	$\sum_{k=0}^{\infty}$
2869	$i,j=1$
2742	$\sum_{k=1}^{\infty}$
2686	$\sum_{i=1}^{m}$
2544	$\frac{1}{2\pi i}$
2117	$\sum_{i=1}^{N}$
1986	$\sum_{i=1}^{r}$
1926	$i,i+1$

Figure 6.4: Most popular subexpressions of size 2 to 5 in all articles

different expressions.

6.3.2 Number of Expressions

Arguing that larger expressions are more important than smaller ones, the next analysis is to see the portion of unique expressions in individual classifications. The percentage of unique expressions of size 2 to 15 in all articles is shown in figure 6.6. This is calculated as the ratio of the number of different expressions to the total number of expressions of a given size. Please see section 5.3.3 for the definition of expression size. We see that (1) more

all (Sz: 6)	
#	Expr
930	(x_1,x_2,x_3)
518	$L_t^2 L_x^2$
409	$C - M(E)E$
408	$-1, 0, 1$
406	(x_0,x_1,x_2)
352	$N_{Aut(F_n)}$
352	$\frac{2n}{n-2}$
350	$\sum_{k=-\infty}^{\infty}$
350	(z_1,z_2,z_3)
334	$\sum_{n=-\infty}^{\infty}$

all (Sz: 7)	
#	Expr
1116	$\sum_{i=1}^{n-1}$
1054	$\sum_{k=0}^{n-1}$
971	$\sum_{i,j=1}^{n}$
894	$\sum_{i=0}^{n-1}$
670	$\sum_{k=1}^{n-1}$
651	$\sum_{j=0}^{n-1}$
575	$1 \leq i, j \leq n$
557	$\sum_{j=1}^{n-1}$
526	$\frac{n+2}{n-2}$
450	$\sum_{j=0}^{k-1}$

all (Sz: 8)	
#	Expr
223	(x_1,x_2,x_3,x_4)
215	$-\frac{1}{2}, \frac{1}{2}$
201	$-1/2, 1/2$
141	$c_{2g-2,\ 2g-1}$
141	$n(n-1)/2$
138	(z_1,z_2,z_3,z_4)
134	$-\frac{\pi}{2}, \frac{\pi}{2}$
124	$Y^{(t+h)}\vert Z_t$
116	i_1, i_2, i_3
115	$d_1 + d_2 + d_3$

all (Sz: 9)	
#	Expr
147	i, j, k, l, m
127	$\frac{a\tau+b}{c\tau+d}$
106	$M^{\bullet}_{\chi,\vec{d},\vec{\mu}}$
105	$\frac{1}{2} + \frac{1-j}{m}$
102	$\frac{abx+1}{aA(x)}$
91	$\frac{az+b}{cz+d}$
88	$t_0 - \delta, t_0 + \delta$
86	$\frac{\partial P \delta_{x,\lambda}}{\partial \lambda}$
83	$Y(u,x_0)v, x_2$
82	$\int_{c-i\infty}^{c+i\infty}$

all (Sz: 10)	
#	Expr
127	$\widetilde{L}_2^{k-1,k,1}$
124	$M, E \bigotimes \widehat{\Omega}_{\leq \mu} A_i$
120	$(-1)^{n(n-1)/2}$
100	$\sum_{j=1}^{n} \vert(y_i, y_j)\vert$
98	$\chi_{a,b,c}^{p,p'}$
93	$L^2(\Omega_0^f; R^3)$
92	$q^{1/2} - q^{-1/2}$
92	$\sum_{j=1}^{n} \vert(z_i, z_j)\vert$
88	$\sigma_{F,\lambda_{n-p}}^{n-p}$
80	$\frac{abx+1}{abA(x)}$

all (Sz: 11to15)	
#	Expr
103	$X_{j_1 \ldots j_s}^{i_1 \ldots i_r}$
80	$\left(\sigma_{F,\lambda_{n-p}}^{n-p}, \varphi\right)$
72	$\P_{a,b,e,f}^{p,p'}$
69	$x_1^2 + x_2^2 + x_3^2$
65	$\beta_{a,b,e,f}^{p,p'}$
65	$\left(\sum_{i \in F} \vert\Phi_i - \phi_i\vert^2\right)^{\frac{1}{2}}$
63	$H; E_1, E_2, E_3, E_4$
63	$X, L \vert \beta; \gamma_1, \ldots, \gamma_h; \mu$
62	$Y_{a_1 a_5; i}^{a_4;(1)}$
61	$\int_{c_j - h_j}^{c_j + h_j}$

all (Sz: 16to20)	
#	Expr
103	$\theta_i, \theta_i^*, i = 0..d\ ; \varphi_j, \phi_j, j = 1..d$
62	$\pi(\beta_2), \pi(\beta_1), w_3, \ldots, w_{2\ell}$
56	$ext \circ \bar{\Phi}_{\lambda,\mu} \circ \pi_* - \bar{\Phi}_{\lambda,\mu}$
52	$\prod_{i=1}^{k} \epsilon_{j_i} \epsilon_{l_i} R_{j_i,l_i}^{-}$
45	$\frac{x_i q^{k_i} - x_j q^{k_j}}{x_i - x_j}$
44	$\sum_{\gamma' \neq \gamma_1', \cdots, \gamma_{n_{j'}}'}$
44	$\langle x, y \rangle - \sum_{i \in F} \langle x, e_i \rangle \langle e_i, y \rangle$
41	$u_{n+1,v}^* + u_{n+1,v}$
38	$t, x(t), u(t), \psi_0, \psi(t)$
38	$\theta_i, \theta_i^*, i = 0...d\ ; \varphi_j, \phi_j, j = 1...d$
37	$\chi_{\pi(\beta_2),\pi(\beta_1),w_3,\ldots,w_{2\ell}}$
34	$L \bigotimes \left((\pi_p)_* O_{C_p}\right)^*, (\pi_p)_* O_{C_p}$
32	$X_{[t_0-\delta,t_0+\delta]}^{1,\frac{1}{2}+\epsilon}$
32	$S^{p+s_1^\alpha, q+s_2^\alpha, s_3^\alpha}$
30	$w_0, w_1, w_2, w_3; z_1, z_2$
28	$1 + 24 \sum_{r=1}^{\infty} \frac{rq^r}{1+q^r}$

Figure 6.5: Most popular subexpressions of size 6 to 20 in all articles

all			
Sz	**Number of subexpressions**	**Number of distinct subexpressions**	**Percentage of distinct subexpressions**
2	16,892,594	196,035	1
3	7,063,566	643,996	9
4	3,329,619	698,591	20
5	2,174,033	630,484	29
6	1,084,395	475,450	43
7	880,405	401,297	45
8	508,236	279,297	54
9	417,702	243,638	58
10	270,138	171,515	63
11	239,619	156,862	65
12	163,657	115,108	70
13	148,238	10,5693	71
14	110,081	82,486	74
15	103,399	78,234	75
all	34,338,150	5,120,818	14

Figure 6.6: Portion of unique expressions among all expressions collected

small expressions occur than large ones, and (2) percentage of distinct expressions becomes higher as the size increases. This trend is found in all articles overall as well as in individual subject classifications (Appendix E). This result is reasonable. The first reason is that there are fewer large subexpressions used in articles. The second reason is that a large expression can yield many small subexpressions. The last reason is that there are exponentially more large expressions because there are more combinations of symbols are possible. To illustrate, consider expressions b^2 and the quadratic equation $x = \frac{-b \pm \sqrt{b^2-4ac}}{2a}$. It would be more likely to have b^2 included in other expressions such as $a^2+b^2+c^2$ than to see the quadratic equation again.

Weighted Dictionary

We use the notion of a weight for an expression's number of occurences. The high-level idea is to measure how often a given expression occurs relative to its expected frequency if all

expressions of its size occured equally frequently.

Let us illustrate this notion by the following example. Suppose we have the following 14 expressions of size 3:

$$
\begin{aligned}
e_1&: \quad a+b,\ a+b,\ a+b,\ a+b,\ a+b,\ a+b \\
e_2&: \quad a-b,\ a-b,\ a-b,\ a-b,\ a-b \\
e_3&: \quad a\times b,\ a\times b \\
e_4&: \quad \tfrac{a}{b} \\
e_5&: \quad abc
\end{aligned}
$$

The frequency of each of these expressions is

$$
\begin{aligned}
e_1&: \quad a+b \quad k_1 = 6 \text{ (out of 14 times)} \\
e_2&: \quad a-b \quad k_2 = 4 \text{ (out of 14 times)} \\
e_3&: \quad a\times b \quad k_3 = 2 \text{ (out of 14 times)} \\
e_4&: \quad \tfrac{a}{b} \quad k_4 = 1 \text{ (out of 14 times)} \\
e_5&: \quad abc \quad k_5 = 1 \text{ (out of 14 times)}
\end{aligned}
$$

Choosing one of these expressions at random, the probability of choosing an instance of e_i is $p_i = \frac{k_i}{\sum_{l=0}^{D} k_l}$, where D is the number of distinct expressions. The average of these probabilities is

$$\frac{\sum_{i=1}^{D} p_i}{D} = \frac{(\frac{6}{14}+\frac{4}{14}+\frac{2}{14}+\frac{1}{14}+\frac{1}{14})}{5} = \frac{\frac{14}{14}}{5} = 0.2$$

Here we gave the probability of $a+b$ appearing the same weight as the probability of $a\times b$ appearing, despite the fact that that $a+b$ shows up three times more often than $a\times b$.

We use the notion of *weighted average probability* to take into account the fact that some expressions occur more frequently than others. In this average, we give weight to p_i proportional to k_i. The weighted average probability a_s of a set of expressions $\{e_1, e_2, e_3 \cdots\}$ of size s is defined as

$$a_s = \frac{\sum_{i=1}^{D} k_i p_i}{\sum_{l=1}^{D} k_l} = \frac{\sum_{i=1}^{D} {k_i}^2}{(\sum_{i=0}^{D} k_i)^2} = \sum_{i=1}^{D} {p_i}^2 \tag{6.1}$$

The weighted average probability of the expressions in our example is

$$\frac{(6^2+4^2+2^2+1^2+1^2)}{(6+4+2+1+1)^2} = \frac{58}{196} \approx 0.296$$

In considering a group of expressions of the same size, we would like to give a factor to measure the significance of each expression. The *significance factor* f_i of the expression e_i is defined as

$$f_i = \frac{p_i}{a_s} \tag{6.2}$$

where a_s is the weighted average probability of size s. That is, it is the relative of the probability of the expression to the weighted average probability. In our example, $a + b$'s significance factor is $\frac{6}{14}/\frac{58}{196} = \frac{42}{29}$.

Using the notion of significance factor, the importance of a particular expression is measured by both its occurrences and the number of expressions of its size. We can see that this notion can make larger expressions that occur not so frequently more important than smaller expressions that occur more frequently.

6.4 Limitations of Analysis

Our analyzing of the popular expressions may not be representative in some cases. The first reason is that not all classifications have a large number of articles (Figure 5.1). The distribution of articles among the subject classification is uneven and some classifications are under-represented. Some classifications such as 26 (Real Functions) and 86 (Geophysics) do not have 100 articles while some classifications such as 11 (Number Theory) have over 1000 articles. The second reason is that longer articles tend to contribute more expressions of similar forms. When counting the occurrences of expressions, we did not keep track of which identical expressions are from the same article. As a result, the statistics may favour expressions from longer articles. The last reason is that a set of authors may use arXiv more

than others. We did not keep track of the authors of the articles when counting the number of expressions. As the result, the statistics may favour expressions from certain authors.

The results of our analysis are also dependent on the choice of TEX to MathML translator because our analysis depends heavily on the results of this translation. There exist several implementations of this kind of translator. Each translator has its own choice of MathML output patterns, depending on each implementation's details. The applications using the translator's output must be aware that the choice of patterns incorporated in the MathML translation may be arbitrary.

Chapter 7

Ongoing Work

Knowing the actual expressions in existing mathematical literature motivates us to derive methods to obtain the *form* of the expressions. Recall that the more frequently a certain expression form occurs, the more desirable we say the form is. The desirable forms of expressions are useful for recognizing handwritten mathematical expressions, symbolic computations and applications in mathematical knowledge management.

We would like to derive some notions of desirable expression form using the corpus of mathematical expressions we have collected. The first notion is the pattern of expressions. The patterns may be obtained by recognizing similar subexpressions among a set of expressions. Anti-unification can be applied for this purpose. The second notion relates to the order of symbols to be presented in writing. This compares the order of symbols written in an expression to the order of symbols presented in MathML. The result of this analysis will enable us to predict the most probable symbol order in the handwritten mathematical expressions.

7.1 Pattern Expressions

Many expressions are similar in our corpus of the mathematical expressions. However, they are regarded as distinct in our experiment. We there fail to capture valuable information

on mathematical notation usage. For instance, $a^2 + b^2 + c^2$ and $x^2 + y^2 + z^2$ are obviously regarded as distinct expressions in our experiment, but they are obviously similar expressions in a sense. If we continue to focus only on finding completely identical expressions, we will fail to capture aspects of the mathematical notation usage.

We wish to extend the notion of recognizing common expressions from our previous experiment such that frequently occurring patterns are recognized. For this purpose, anti-unification is found to be useful for extracting the common parts of pairs of expressions.

7.1.1 Anti-Unification

Anti-unification provides a useful framework for defining and generating patterns by extracting parts common between a pair of expressions. It is a dual process to unification, which finds a substitution to make a pair of expressions equal. Rather than finding a substitution, anti-unification finds an expression that is more general than the input expressions. The outputs of anti-unification, which are called generalizations or patterns, include the common parts of the expressions. They can be specialized again to produce the input expressions by knowing appropriate substitutions.

Anti-unification can operate on expression trees. Since expressions in MathML are expression trees, we can apply this algorithm to generate patterns of mathematical expressions.

Anti-unification has been studied since the 1970s [22]. One of main areas of application of this process has been artificial intelligence. This process is less well-studied than unification.

Before discussing the algorithm for anti-unification, two examples below to illustrate the high-level ideas:

Example 1. *We have three sentences*

Orca lives in the sea.

Lobster lives in the sea.

Horse lives in the barn.

A generalization of these three sentences is "α lives in the β", where α replaces the name of the animal and β replaces the name of the place.

Let's consider a mathematical example illustrating the fact that anti-unification can operate on expression trees and there may be more than one output of from process.

Example 2. *We have two expressions*

$f(x, g(x), x)$

$f(x, g(y), y)$

The generalizations of these two expressions are α, $f(x, \alpha, \beta)$ and $f(x, g(\alpha), \alpha)$ where α and β denote subexpressions.

We are interested in finding *the most specific generalization* as the pattern of a pair of expressions. Such generalization is unique. Suppose we have a generalization G, expressions E_1 and E_2, and substitutions γ_1 and γ_2, G is the most specific generalization of E_1 and E_2 if $G = \gamma_1(E_1) = \gamma_2(E_2)$ such that the number of substitutions in γ_1 and γ_2 is maximized. In Example 2, $f(x, g(\alpha), \alpha)$ is the most specific generalization.

7.1.2 Algorithms

The following is Plotkin's anti-unification algorithm [22] expressed in our notation:

Algorithm 1 (Plotkin's Algorithm).

- *Input: Two expressions E_1 and E_2.*
- *Output: The most specific generalization G and substitutions γ_1 and γ_2*

1. *Let $G_1 = E_1$, $G_2 = E_2$, $\gamma_1 = \{\}$ and $\gamma_2 = \{\}$*
2. *Find terms t_1 and t_2 that occupy the same position in G_1 and G_2 respectively and such that $t_1 \neq t_2$.*

3. *If all terms are equal then return* $G = G_1$, γ_1 *and* γ_2. *Note* $\gamma_1(E_1) = \gamma_2(E_2) = G_1 = G_2$

4. *Choose a new variable* ϕ *that is not found in* G_1 *or* G_2.

5. *Replace all occurences of* t_1 *in* G_1 *and* t_2 *in* G_2 *with* ϕ *wherever* t_1 *and* t_2 *occur in the same position.*

6. *Change* γ_1 *to* $\{\phi \rightarrow t_1\} \cup \gamma_1$ *and* γ_2 *to* $\{\phi \rightarrow t_2\} \cup \gamma_2$.

7. *Go to step 2.*

The time complexity of this algorithm is polynomial because both expression trees are traversed completely in step 5 of each iteration.

We can reduce the time complexity by eliminating the repeated traversals. We present the algorithm of [30] as a more efficient alternative. In this new anti-unification algorithm, pairs of subexpressions that occupy the same position are anti-unified independently. Since the same substitution may have been introduced with different variables in the separate subexpressions, it may be necessary to combine the substitutions. The *CombineSubs* procedure examines the substitutions in sibling subexpressions and assigns the same left-hand side variable to identical substitutions.

Notation 1. *We use the notation* $\{\alpha \rightarrow (a_1, a_2), \beta \rightarrow (b_1, b_2), ...\}$ *to denote the pair of substitution* $\gamma_1 = \{\alpha \rightarrow a_1, \beta \rightarrow b_2, ...\}$ *and* $\gamma_2 = \{\alpha \rightarrow a_2, \beta \rightarrow b_2, ...\}$. *We call this a "substitution pair".*

Algorithm 2 (CombineSubs).

- *Input: Expression* E *and substitution pairs* γ_1 *and* γ_2
- *Output: Expression* E' *and substitution pair* γ_{new} *such that*
  - *for all substitution pair* $\phi \rightarrow (e_1, e_2)$ *in* γ_1 *or* γ_2, γ_{new} *contains a substitution pair* $\psi \rightarrow (e_1, e_2)$.

- *for all substitution pairs in γ_{new}, there does not exist $\eta \rightarrow (e_1, e_2) \in \gamma_{new}$ and $\zeta \rightarrow (e_1, e_2) \in \gamma_{new}$ with $\eta \neq \zeta$.*
- *If $\phi \rightarrow (e_1, e_2) \in \gamma_i$ and $\psi \rightarrow (e_1, e_2) \in \gamma_{new}$, all occurences of ϕ in E are replaced by ψ in E'.*

1. *$\gamma_{new} = \{\}$, $E' = E$*
2. *Find $\sigma_1 = v_1 \rightarrow (r_1, r_2) \in \gamma_1$ and $\sigma_2 = v_2 \rightarrow (t_1, t_2) \in \gamma_2$ where $r_i = t_i$ and $v_1 \neq v_2$.*
3. *If there are no such σ_1 and σ_2, return E' and $\gamma_{new} = \gamma_1 \cup \gamma_2$.*
4. *Remove and σ_2 from γ_2.*
5. *Replace all instances of v_2 with v_1 in E'.*
6. *Go to step 2.*

We are now in a position to state the single pass anti-unification algorithm. This algorithm traverses the expressions E_1 and E_2 in parallel recursively.

Algorithm 3 (Anti-Unify).

- *Input: Two expressions E_1 and E_2*
- *Output: The most specific generalization G and substitution pair γ.*

1. *If $E_1 = E_2$, return $G = E_1$ and $\gamma = \{\}$.*
2. *If E_1 and E_2 are variables, constants or expressions with different arity, then return $G = \phi$ and the substitution pair $\{\phi \rightarrow (E_1, E_2)\}$.*
3. *Otherwise E_1 and E_2 have same arity, n.*

   Apply Anti-Unify to all corresponding pairs of subexpressions of E_1 and E_2 to obtain expressions $G_1, G_2 ... G_n$ and substitution pairs $\gamma_1, \gamma_2, ... \gamma_n$, where G_i and γ_i are the result of anti-unifying the ith subexpressions.

4. *Form G from the subexpression G_i. Use CombineSubs to merge the substitution pairs γ_i obtaining γ and updating the variables in G.*

5. *Return G and γ.*

In this algorithm, there is no need to traverse the complete expression when a new variable is created. The substitutions are made consistent throughout the expression by calling *CombineSubs*.

To generate all possible patterns of the corpus of expressions, it is not enough to generate patterns from pairs of expressions. It would be useful to see what patterns are generated by anti-unifying all subexpressions. As the result, we would see both specific as well as general notation usage.

Given practical limitations, a feasible algorithm for generating interesting patterns of expressions is an open problem.

7.2 Writing Order of Expressions

An interesting direction would be to explore some common symbol writing orders in the mathematical expressions. The order in which symbols are written is not random: There are some orders that are more likely than others. This study would be useful for analyzing and recognizing handwritten mathematical expressions in several ways. First, the symbols could be further be weighted to the ones that are expected to be appearing next. Second, the two-dimensional relationships of next symbols would be anticipated.

Generally, the mathematical expressions are written from left to right in languages that based on Latin alphabets. In two-dimensional constructs, there may be a certain popular order that many people would write symbols. These orders should be dependent on individuals' preferences. The choice of such symbol writing order is apparent even in simple expressions. A simple example is an one-line mathematical expressions such as $\sin(x) + \cos(x)$. In languages that are written from left to right, we may assume that people would generally

write $\sin(x)$ before writing $\cos(x)$. Depending on individual's preferences, one may write the parenthesis before writing x in $\sin(x)$. We can see that the expression is not necessarily written from left to right always.

Determining the symbol writing order of the two-dimensional constructs is even more complicated than working on one-line expressions. For example, when writing the definition of the harmonic series

$$\sum_{k=1}^{\infty} \frac{1}{k}$$

the summation sign $\sum$ is usually written first. After this, $k = 1$ and ∞ are written below and above the summation sign respectively there. $\frac{1}{k}$ is finally written. Within $\frac{1}{k}$ there may be more than one writing order. One may write the fraction bar first, followed by 1 and k. Others may write the parts of the fraction the from top down. Many possible writing orders can be enumerated in two-dimensional mathematical expressions. Some of them are more common than others, however.

When designing a mathematical expressions recognizer for all mathematicians around this world, it is not always enough to consider only expressions that are generally written from left to right. In some Arabic countries, mathematical expressions are written from right to left [21]. Processing this kind of mathematical expressions requires additional care.

An in-order traversal of MathML expression tree usually yields a reasonably common writing order. This order may not be the most desirable for all mathematicians: Other writing orders require different tree traversal orders of the MathML expression. Consider the expression $\sum_{k=1}^{\infty} \frac{1}{k}$ in MathML:

```
<math>
  <munderover>
    <mo>&sum;</mo>
    <mrow>
      <mi>k</mi>
      <mo>=</mo>
      <mn>1</mn>
    </mrow>
```

```
    <mo>&infin;</mo>
  </munderover>
  <mfrac>
    <mn>1</mn>
    <mi>k</mi>
  </mfrac>
</math>
```

In this expression, we may anticipate that the underscript and the overscript will be written after the summation sign is written. This assumption is consistent with the design of Presentation MathML. The fraction part of the expression alone may be written in several different orders.

Realizing the multiple writing order of the mathematical expressions, we first consider the writing order of constructs associated with each non-leaf Presentation MathML element. Enumerating the common writing orders is straight-forward. From observation, we can enumerate multiple writing order of many constructs such as

- `<mroot>` (root): root, base, index *or* root, index, base *or* base, root, index
- `<mfenced>` (expression inside pair of fences): open parenthesis, expression, close parenthesis *or* expression, open parenthesis, close parenthesis
- `<mtable>` (matrix): row *or* column

We can thus use a database of mathematical expressions to construct a Markov chain or other probabilistic model to predict next symbol weights.

Chapter 8

Conclusion

Development of powerful mathematical software is increasingly dependent on the models of expression forms. Currently, this knowledge is being hard-coded in the mathematical software packages' logic based on the experience and preferences of software designers. This design methodology is problematic as the mathematical software packages are used by a diverse population of users. This model is needed, for example, when expressions are simplified in symbolic computation or when handwritten mathematical expressions are processed by a handwriting recognizer.

Our initial motivation to study the forms of mathematical expression was to provide empirical information for a recognizer for handwritten mathematical expressions. Understanding the success of natural language handwriting recognition, we observe that their success relies partially on the contextual database information to filter out inadmissible results. There has been no such approach for mathematics yet. We believe that the knowledge of common forms of mathematics are needed when analyzing handwriting input of mathematics. In this work, we have investigated ways to describe and collect the forms of mathematical expressions in a format that should be useful for recognizing handwritten mathematical expressions.

To study this problem, we collected the mathematical articles from the arXiv server that

were submitted from 2000 to 2004. The articles are sorted according to their Mathematical Subject Classification (2000) assigned by their authors. This database provides us with notations actively used in practice. We analyzed the expressions and discovered that each classification has some particular pattern of symbol and expression usage.

Exploring the framework for a mathematical expression dictionary, as well as for other components of the recognizer, is an ongoing process. We continue to investigate this topic. Two possible research directions can be extended from this study. One direction is to generate patterns of expressions by anti-unification. Another direction is to build Markov chains or other probabilistic models to keep track of some popular order of symbols in the written mathematical expressions.

Studying forms of the mathematical expressions is complex because of the structure of mathematical notation. Modern mathematical notation is the result of hundreds of years of evolving practice, and resembles a combination of writing and drawing. Mathematicians rely on the properties of mathematical expressions and various notational conventions to provide a brief but precise representation of their ideas. The electronic representation of mathematical expressions is no less complex than these mathematical notations.

Appendix A

Canonicalizing MathML

These tables describe the changes that should be made to normalize the MathML elements. We have two kinds of operations: Some attributes of an element may be deleted, the expression tree rooted by the current element may be transformed. Both of these kind of operations are indicated in the tables.

Token Elements

Element	Action (Attributes)	Action (Transformation)
`<mi>` (Identifier)	Keep `mathvariant` if not default	None
`<mn>` (Number)	None	None
`<mo>` (Operator)	Keep `mathvariant` if not default	None
`<mtext>` (Text)	Keep `mathvariant` if not default	None
`<mspace>` (Space)	N/A	Eliminate element and its children
`<ms>` (String Literal)	Keep `lquote` and `rquote` if not default	None
`<mglyph>` (Glyph)	Keep `index`	None

Note: Keep attributes `style`, `fontstyle` and `fontfamily` for all token elements.
Eliminate all attributes unless specified.

Table Elements

Element	Action (Attributes)	Action (Transformation)
`<mtable>` (Table)	Keep `rowlines` if not default Keep `columnlines` if not default Keep `frame` if not default	None

`<mtr>` (Row in Table)	None	None
`<mlabeledtr>` (Labeled Row in Table)	None	None
`<mtd>` (Entry in Table)	None	None
`<maligngroup>` (Alignment Groups)	None	Eliminate element
`<malignmark>` (Alignment Marker)	None	Eliminate element

General Layout Schemata

Element	**Action (Attributes)**	**Action (Transformation)**
`<mrow>` (Horizontally Grouped Sub-Expressions)	None	If only one child is present, eliminate element but keep child If first and last children are parenthesis, change element to `<mfenced>` and keep all non-parenthesis and non-separator children
`<mfrac>` (Fraction)	Keep `linethickness` if equals `0` Keep `bevelled` if equals `true`	None
`<msqrt>` (Squqre Root)	None	None
`<mroot>` (Root)	None	None
`<mstyle>` (Style Change)	None	Eliminate element but preserve all children
`<merror>` (Error Message)	None	Eliminate element and its children
`<mphantom>` (Invisible Sub-Expression)	None	Eliminate element and its children
`<mfenced>` (Expression inside Pair of Fences	Keep `open` and `close` if not default (namely "`(`" and "`)`")	None
`<menclose>` (Enclose Expression Inside Notation	Keep `notation` if equals `longdiv`	None
`<msub>` (Subscript)	None	None
`<msup>` (Superscript)	None	None

<msubup> (Subscript–Superscript Pair)	None	None
<munder> (Underscript)	None	None
<mover> (Overscript)	None	None
<munderover> (Underscript–Overscript pair	None	None
<mmultiscripts> (Prescripts and Tensor Indices)	None	Change to <msub> or <msup> if only 3 children present and <none> is the second or third child respectively

Note: Eliminate all attributes unless specified.

Other MathML Elements

Element	Action (Attributes)	Action (Transformation)
<math>	None	Change to <mrow>
<maction> (Bind Action to Sub-Expression)	None	Eliminate element but keep all children

Appendix B

Frequency of All Identifiers

Total number of identifiers in classifications							
Class.	#	Class.	#	Class.	#	Class.	#
all	58,803,675	20	3,573,248	44	128,774	70	323,947
00	19,175	22	1,881,641	45	93,501	74	160,897
01	58,551	26	497,628	46	3,761,154	76	188,127
03	683,090	28	373,478	47	1,713,442	78	49,682
05	3,126,409	30	932,412	49	479,327	80	21,593
06	434,009	31	207,413	51	385,913	81	2,043,047
08	133,207	32	2,612,264	52	943,657	82	1,039,955
11	3,976,630	33	1,147,395	53	5,420,074	83	146,672
12	382,728	34	946,538	54	486,400	85	24,413
13	1,967,319	35	2,788,136	55	1,938,087	86	41,038
14	8,151,585	37	2,282,682	57	4,133,025	90	177,566
15	709,419	39	179,399	58	3,358,438	91	81,311
16	3,078,800	40	58,828	60	2,979,937	92	75,365
17	2,822,240	41	232,165	62	286,589	93	265,603
18	1,594,633	42	966,795	65	473,674	94	318,699
19	884,973	43	438,258	68	561,062	97	8,343

Note:
The table given in the following pages gives the frequency of characters appearing in single character identifiers. The Unicode value of the character is given, as well as a representative glyph. The columns of the table correspond to the MR subject classifications. The entries give the number of times the character occurs per million single-character identifiers in documents in the given classification.

Ucode	Id	all	00	01	03	05	06	08	11	12	13	14	15	16
0041	A	22,791	18,670	17,318	29,845	19,907	28,252	54,208	19,107	26,230	33,397	20,381	50,503	49,242
0042	B	12,620	20,704	8,573	15,002	13,286	14,075	19,030	10,309	10,372	11,314	11,649	23,440	17,746
0043	C	16,915	9,022	19,504	17,107	12,139	16,022	17,003	11,387	15,198	15,708	20,535	18,543	22,654
0044	D	11,488	3,598	6,421	9,411	8,964	8,283	11,598	12,056	9,811	13,164	15,558	8,258	11,662
0045	E	11,566	15,645	6,455	9,421	7,646	8,290	5,457	11,714	10,652	11,123	18,051	6,997	11,174
0046	F	13,014	3,441	9,171	16,773	12,212	16,810	8,550	16,524	22,303	15,233	17,051	9,651	13,058
0047	G	16,074	10,951	13,492	21,983	19,232	15,474	25,531	19,620	22,608	13,301	18,560	7,766	16,026
0048	H	15,192	5,893	9,222	11,452	9,388	10,640	17,048	12,238	19,489	15,646	19,201	7,403	23,736
0049	I	8,999	2,868	9,000	7,524	7,660	13,048	5,232	6,409	6,989	31,298	10,940	13,871	10,147
004A	J	5,510	2,190	4,030	3,551	2,735	5,382	1,538	3,838	3,365	9,935	5,849	4,684	4,585
004B	K	11,219	4,119	4,457	15,144	7,369	8,566	11,538	18,905	34,060	13,619	13,649	6,718	9,771
004C	L	14,728	20,547	9,683	13,280	9,820	20,001	7,904	15,921	14,861	11,144	15,611	7,325	12,067
004D	M	18,135	6,049	15,610	17,256	12,128	15,808	18,662	12,390	19,977	24,683	15,925	14,651	25,988
004E	N	12,492	13,715	6,695	7,738	9,179	6,861	7,874	15,537	12,525	10,568	11,041	22,522	11,417
004F	O	4,779	4,015	5,584	3,819	2,133	2,520	6,598	7,701	4,528	5,593	10,771	2,702	4,272
0050	P	12,839	26,492	15,268	14,582	15,475	23,008	9,669	13,479	14,482	14,296	16,183	15,790	11,220
0051	Q	6,167	13,663	5,345	5,134	5,672	8,412	4,939	7,950	6,414	7,378	6,812	8,188	6,934
0052	R	11,874	13,872	8,983	9,490	9,800	9,437	7,041	9,807	8,525	41,019	12,437	9,127	23,701
0053	S	16,487	17,992	15,080	17,122	16,680	26,414	13,092	15,232	12,018	20,849	20,198	16,933	19,541
0054	T	14,576	5,684	15,542	15,605	13,141	10,280	15,472	14,126	17,461	13,766	12,801	11,740	13,137
0055	U	8,596	2,138	8,710	11,916	4,514	6,264	18,947	6,199	6,495	6,594	8,778	7,071	8,960
0056	V	11,246	14,758	12,689	12,004	8,862	7,433	22,506	9,366	11,684	11,143	14,539	10,187	14,352
0057	W	7,070	21,121	8,317	5,833	4,570	3,557	18,962	6,352	4,109	4,326	9,394	5,029	5,581
0058	X	23,369	10,065	15,285	33,862	13,863	15,382	29,998	19,535	21,874	23,401	41,710	16,393	20,462
0059	Y	8,125	625	3,347	9,918	4,532	6,112	5,517	6,340	8,857	8,975	14,532	4,530	6,590
005A	Z	5,719	7,509	5,328	5,880	3,087	2,663	3,385	6,402	6,302	6,644	9,687	5,490	4,365
0061	a	21,435	10,951	30,896	22,030	26,377	40,996	42,054	25,301	27,348	24,600	19,235	31,573	28,544
0062	b	12,093	11,525	19,128	15,270	17,860	24,084	19,488	11,867	12,499	10,988	11,012	14,012	15,153
0063	c	12,106	9,647	16,464	14,586	14,053	16,091	9,368	12,383	13,171	12,436	11,635	12,332	12,356
0064	d	19,457	28,265	13,150	10,578	19,513	14,220	8,182	22,302	17,492	25,894	21,690	18,830	13,357
0065	e	11,846	25,971	5,892	6,092	12,308	9,693	6,906	9,675	9,591	12,512	10,492	12,656	13,103
0066	f	18,235	12,046	29,820	22,671	11,679	19,564	34,397	18,126	22,901	21,125	18,560	15,660	16,583
0067	g	14,992	7,353	18,565	10,104	6,814	10,762	17,754	13,683	11,627	10,253	14,459	7,920	15,935
0068	h	10,486	15,488	9,154	10,369	7,382	8,396	6,478	10,550	8,993	9,347	9,951	6,323	11,001
0069	i	43,280	34,106	20,050	51,565	62,421	50,978	41,319	35,100	45,470	54,512	47,977	56,491	50,494
006A	j	23,038	15,384	15,217	18,062	33,399	20,944	14,045	21,153	20,116	22,494	19,761	34,674	22,640
006B	k	32,060	37,235	23,757	24,374	46,461	30,762	23,932	38,230	30,238	29,664	28,545	40,290	31,220
006C	l	9,478	15,332	3,193	6,946	9,252	7,548	8,850	10,130	10,621	7,634	10,064	10,501	9,271
006D	m	19,263	36,818	18,155	19,893	26,007	16,087	17,754	23,642	18,151	26,611	20,628	24,118	19,460
006E	n	48,150	109,882	54,140	48,239	82,791	54,630	62,909	58,186	50,722	47,991	39,798	58,160	43,319
006F	o	2,340	156	444	2,168	1,740	2,039	4,466	2,175	2,197	2,155	2,541	1,715	3,395
0070	p	22,832	18,409	21,895	26,292	21,758	28,517	17,649	40,302	29,441	21,899	25,155	21,511	20,186
0071	q	14,838	10,638	14,158	11,385	24,663	13,656	9,976	21,797	18,143	13,879	12,663	14,679	13,935
0072	r	17,248	5,528	15,729	12,472	23,921	13,052	9,526	19,695	20,139	20,283	19,591	27,780	16,394
0073	s	17,659	26,284	11,186	14,203	18,566	12,665	17,048	21,319	12,141	14,526	15,829	15,993	13,004
0074	t	25,967	15,749	44,012	15,693	24,432	16,202	9,579	19,654	19,622	23,459	19,367	21,554	19,831
0075	u	13,669	4,641	13,372	9,234	11,562	16,930	13,189	10,291	8,886	10,295	9,144	10,297	10,457
0076	v	12,078	9,543	6,148	8,780	16,218	17,999	10,900	14,380	11,809	9,340	10,521	10,736	10,508
0077	w	8,585	16,792	18,821	5,024	10,298	11,928	9,391	7,880	5,063	5,554	8,124	6,713	6,865
0078	x	36,240	58,200	105,258	41,042	40,264	53,286	40,508	35,294	49,011	35,823	26,603	34,975	31,920
0079	y	13,341	21,538	34,209	16,764	13,274	29,262	18,947	12,880	17,991	13,933	11,058	11,884	12,410
007A	z	13,719	17,157	16,635	8,322	10,753	9,541	9,541	13,333	16,246	8,283	10,900	13,909	6,771
0393	Γ	5,655	3,441	3,706	6,543	3,727	1,769	1,238	6,507	3,420	3,132	5,483	2,946	4,268
0394	Δ	4,933	2,033	3,057	3,400	5,672	10,197	2,552	3,226	4,337	5,986	5,548	2,471	7,093
0398	Θ	1,018	104	85	1,258	576	1,599	8,055	514	229	391	1,016	590	1,101
039B	Λ	3,655	52	2,220	2,021	2,536	2,820	983	3,605	1,447	2,140	2,790	3,292	6,922
039E	Ξ	331	0	0	216	204	69	60	269	15	181	304	228	274
03A0	Π	993	3,650	2,749	2,217	814	1,092	1,313	744	1,157	379	906	647	730
03A3	Σ	3,084	0	2,459	2,821	1,444	1,032	848	1,278	1,452	1,219	3,663	1,793	1,882
03A5	Υ	170	0	0	226	96	80	97	114	300	21	90	194	129
03A6	Φ	2,844	3,963	905	2,657	1,880	2,557	8,152	2,129	2,155	1,212	2,317	2,806	2,282
03A8	Ψ	1,260	0	3,945	1,299	809	1,504	1,584	812	342	407	898	959	943
03A9	Ω	4,227	4,328	4,730	4,999	2,279	2,412	1,171	2,301	2,691	2,100	3,349	1,791	3,065
03B1	α	15,943	29,726	10,691	24,604	14,704	13,027	18,047	12,774	15,261	9,288	12,132	12,115	17,023

Ucode	Id	all	00	01	03	05	06	08	11	12	13	14	15	16
03B2	β	7,401	4,276	10,332	11,305	7,106	6,647	10,052	6,178	6,231	4,666	5,209	6,182	8,546
03B3	γ	7,351	3,598	5,397	10,196	5,305	5,810	5,810	6,507	8,313	2,959	5,298	5,147	5,566
03B4	δ	6,064	2,138	4,338	7,122	4,251	2,552	4,639	4,650	4,190	3,612	3,888	3,886	4,554
03B5	ϵ	7,787	2,190	9,342	3,754	5,461	4,131	2,800	5,928	5,196	2,926	3,361	6,482	5,574
03B6	ζ	2,246	2,972	1,571	1,838	1,721	3,479	2,154	4,334	1,959	384	1,445	2,595	1,546
03B7	η	4,134	469	3,142	3,299	2,732	2,290	3,220	3,019	1,627	1,180	2,748	1,798	2,666
03B8	ϑ	4,755	18,930	2,732	4,694	3,525	2,467	1,238	3,696	2,223	1,597	2,424	4,747	2,317
03B9	ι	886	208	614	592	225	341	855	777	1,118	539	906	386	1,282
03BA	κ	1,979	0	751	13,285	1,296	2,128	4,158	1,649	1,842	732	1,232	1,172	983
03BB	λ	12,319	4,693	23,210	8,528	17,126	8,444	8,903	9,172	8,930	6,241	9,178	14,325	9,412
03BC	μ	8,623	2,033	6,609	9,828	9,751	5,896	8,678	6,467	6,398	4,861	6,621	11,328	5,968
03BD	ν	4,759	1,877	4,508	7,206	4,787	2,940	6,155	4,152	2,030	6,180	4,291	5,242	2,590
03BE	ξ	5,563	0	5,567	5,997	2,549	2,564	2,402	3,076	4,345	1,214	2,914	3,347	2,608
03C0	π	8,756	9,752	8,385	6,092	8,676	5,234	5,652	11,348	6,589	4,085	8,891	9,581	6,772
03C1	ρ	5,657	4,015	2,903	2,610	4,232	5,294	3,535	6,740	3,851	2,439	4,077	5,573	4,015
03C2	ς	52	0	68	13	31	822	0	9	0	0	25	38	12
03C3	σ	8,165	9,335	3,296	6,463	9,898	8,771	6,921	7,303	9,283	6,209	8,790	10,180	8,919
03C4	τ	6,388	2,972	3,757	4,999	5,495	4,907	2,312	5,641	3,501	4,674	5,636	4,819	5,062
03C5	υ	123	0	68	58	64	82	0	21	263	166	98	11	50
03C6	φ	5,855	6,414	5,687	7,635	3,673	3,663	2,912	5,048	3,819	5,047	4,859	4,244	3,929
03C7	χ	2,607	3,702	1,520	1,188	1,714	1,027	2,011	4,422	3,166	828	2,475	871	3,030
03C8	ψ	4,253	5,475	6,729	3,315	3,126	2,898	4,541	3,747	1,651	3,052	3,044	1,995	3,971
03C9	ω	6,102	3,024	2,134	18,015	4,818	5,700	4,331	4,387	5,016	3,115	4,873	3,118	2,714
03D1	θ	250	625	17	168	199	27	97	238	18	102	195	245	193
03D5	ϕ	4,558	1,251	1,468	5,898	1,807	4,965	8,640	3,486	3,446	4,790	3,851	3,745	4,630
03D6	π	183	0	0	51	140	23	0	308	261	68	211	57	369
03F1	ϱ	266	0	1,127	360	115	2	75	143	39	134	188	56	327

Ucode	Id	17	18	19	20	22	26	28	30	31	32	33	34	35
0041	A	24,327	48,555	37,080	22,007	20,969	15,133	22,595	15,606	16,214	18,578	15,408	16,300	13,242
0042	B	11,849	17,756	19,115	13,730	11,468	7,654	15,837	9,554	13,374	9,727	6,403	8,091	9,631
0043	C	9,835	29,275	26,348	13,844	16,013	13,481	12,089	13,167	16,146	18,204	8,163	12,390	17,450
0044	D	8,778	13,789	14,296	8,896	7,754	7,807	7,973	13,169	22,534	15,761	5,522	11,123	10,809
0045	E	11,207	13,302	18,085	8,763	10,151	6,516	9,033	9,263	10,095	12,932	7,727	7,791	7,076
0046	F	9,574	21,916	17,781	13,693	13,101	11,922	13,920	10,721	7,434	14,006	6,426	10,645	7,678
0047	G	12,350	24,960	36,588	34,953	40,585	6,912	21,096	9,807	6,286	12,396	5,325	8,709	5,466
0048	H	10,438	16,386	22,204	17,583	18,763	8,337	10,455	11,571	10,471	15,994	8,503	13,738	13,575
0049	I	7,317	10,612	8,186	6,944	6,149	9,058	7,711	5,086	6,961	9,336	4,730	9,207	8,280
004A	J	6,091	4,138	2,734	4,697	6,162	2,841	4,150	3,577	2,347	9,047	2,263	3,426	3,795
004B	K	7,390	13,388	28,561	11,473	12,895	5,910	11,864	9,529	14,864	9,451	3,749	7,281	8,020
004C	L	17,076	13,284	11,097	14,631	17,098	10,771	11,023	10,197	10,958	13,683	9,198	12,449	21,094
004D	M	15,621	27,063	21,677	14,142	18,451	11,072	11,939	11,418	10,225	20,618	6,534	12,295	11,497
004E	N	11,174	9,896	10,461	11,377	11,751	8,287	14,164	11,016	5,650	11,366	11,891	10,217	13,906
004F	O	3,091	6,345	3,843	3,600	5,222	2,142	1,421	3,674	2,463	6,588	1,470	3,791	3,275
0050	P	9,945	14,550	12,960	13,982	15,353	10,393	10,005	14,626	10,910	12,294	8,153	9,214	8,286
0051	Q	3,997	6,395	4,966	5,961	6,837	5,946	4,905	8,795	12,193	5,467	3,966	6,034	5,505
0052	R	11,226	18,088	16,592	12,725	9,250	7,626	12,067	13,124	11,542	8,022	5,147	9,554	12,421
0053	S	10,504	20,667	19,573	18,849	15,300	7,991	15,427	16,516	8,085	16,938	6,775	10,784	10,344
0054	T	10,506	15,903	14,911	13,533	13,430	9,143	18,250	8,568	6,137	13,768	6,675	11,190	14,333
0055	U	12,293	11,947	9,863	8,926	12,246	7,473	8,602	8,001	9,613	10,884	3,855	6,486	6,240
0056	V	18,037	14,370	11,108	12,084	15,009	6,106	6,361	7,975	6,393	11,870	5,590	9,326	7,468
0057	W	9,005	6,208	7,751	9,496	10,851	3,578	3,630	6,739	4,941	7,958	3,873	6,333	4,863
0058	X	15,192	37,634	33,733	21,662	23,580	14,559	22,606	8,622	9,377	30,689	5,391	12,972	9,911
0059	Y	9,285	12,673	11,257	6,649	7,084	4,929	5,333	4,839	2,246	8,686	1,965	6,689	3,286
005A	Z	4,599	6,756	6,481	5,447	6,577	2,475	2,891	4,461	1,856	7,125	2,066	4,341	2,961
0061	a	33,182	19,366	19,924	25,077	20,724	34,718	18,590	19,020	14,246	17,872	42,289	25,471	15,931
0062	b	16,412	11,304	10,522	13,624	9,452	24,134	9,497	11,183	8,591	9,398	24,009	11,748	9,430
0063	c	11,519	10,076	10,869	12,659	10,382	11,894	8,091	11,010	9,102	11,362	17,463	13,607	9,986
0064	d	15,569	16,137	12,446	14,860	16,560	21,224	21,682	18,522	29,583	20,417	17,969	22,817	24,095
0065	e	18,781	8,978	11,318	12,787	15,665	11,052	6,565	13,775	9,469	10,458	13,460	10,563	9,933
0066	f	12,659	25,201	17,944	13,897	17,262	42,923	21,358	27,124	18,788	25,714	12,952	16,756	15,215
0067	g	18,944	14,663	12,709	16,802	23,066	14,894	14,067	17,508	8,904	15,065	9,366	13,044	10,933
0068	h	12,568	8,336	8,897	9,507	9,950	9,245	8,763	12,591	19,304	11,760	8,197	10,929	12,392
0069	i	61,513	44,070	39,716	48,455	31,489	58,157	33,450	27,693	23,797	38,178	46,733	33,036	28,941
006A	j	30,250	18,857	15,539	21,451	15,194	24,787	23,672	22,741	24,072	26,949	36,562	24,150	24,968
006B	k	33,828	24,137	27,876	30,079	22,263	32,335	41,571	32,071	28,045	31,648	50,122	35,175	29,924
006C	l	14,241	7,532	7,801	9,922	8,053	4,244	6,822	9,257	7,747	9,246	12,951	11,587	8,037
006D	m	23,670	17,110	15,941	19,269	14,339	28,012	20,630	19,092	12,106	19,686	27,263	19,788	13,700
006E	n	43,925	41,926	55,936	47,242	33,909	61,469	64,263	60,146	40,412	38,218	73,739	41,190	35,705
006F	o	1,747	5,489	3,334	2,251	2,464	1,103	1,170	1,620	1,851	2,201	854	2,598	1,941
0070	p	19,416	21,329	26,360	22,702	20,670	28,457	15,934	15,465	21,859	22,223	19,997	17,039	19,107
0071	q	24,345	10,677	11,521	17,880	11,915	9,372	10,003	9,248	10,688	12,360	62,139	14,409	10,380
0072	r	19,470	16,030	14,933	17,352	15,345	11,603	19,698	17,922	25,567	16,708	20,157	13,508	16,834
0073	s	18,604	15,632	15,837	19,530	19,174	18,558	15,679	13,223	12,839	15,594	21,162	20,433	25,234
0074	t	17,479	15,534	20,016	20,304	18,170	34,389	25,607	24,506	23,957	21,604	26,911	47,794	49,859
0075	u	14,410	9,380	9,324	12,590	12,920	11,160	11,331	13,805	24,530	14,322	13,267	20,699	39,841
0076	v	14,976	7,246	10,396	15,572	12,257	8,409	8,659	10,450	8,668	10,294	8,721	10,328	16,820
0077	w	11,603	3,727	7,618	13,778	10,053	7,374	6,294	14,579	13,441	10,208	7,251	6,862	11,562
0078	x	28,157	26,590	21,572	33,714	29,324	72,272	53,513	35,918	58,993	28,140	48,183	58,147	51,773
0079	y	10,953	11,590	8,074	13,818	10,100	23,622	14,996	14,939	21,633	12,444	17,812	24,950	15,920
007A	z	14,237	5,399	6,286	9,495	12,511	15,194	10,584	53,614	34,809	27,203	32,188	22,869	14,459
0393	Γ	3,948	5,006	8,219	9,099	8,659	4,905	5,743	9,421	7,931	5,489	5,246	3,627	3,880
0394	Δ	5,559	6,957	5,526	5,340	5,633	6,328	3,105	4,500	6,354	5,319	3,737	2,742	5,165
0398	Θ	1,967	817	441	719	3,139	614	484	1,070	337	1,413	688	1,320	471
039B	Λ	6,207	4,328	2,041	4,434	6,014	1,585	3,949	2,392	6,036	2,108	2,422	3,677	3,224
039E	Ξ	384	368	145	616	906	277	321	451	67	318	454	387	234
03A0	Π	1,103	861	958	1,407	1,324	876	937	915	819	798	316	717	1,353
03A3	Σ	1,326	4,369	1,835	2,590	2,533	395	2,374	2,617	1,311	3,546	1,174	1,888	2,217
03A5	Υ	198	192	71	190	341	10	195	495	72	279	25	213	149
03A6	Φ	2,389	3,258	1,925	2,619	3,134	3,472	1,668	4,256	4,324	2,859	2,454	2,739	2,430
03A8	Ψ	1,149	903	965	1,090	1,316	665	1,119	2,252	641	1,416	820	1,285	1,770
03A9	Ω	2,412	3,286	3,261	3,247	4,685	10,909	5,440	7,983	23,175	6,134	1,659	4,771	12,305
03B1	α	20,102	13,124	11,139	16,777	17,341	20,143	15,406	14,738	18,229	14,779	16,208	19,445	17,087

Ucode	Id	17	18	19	20	22	26	28	30	31	32	33	34	35
03B2	β	8,767	6,977	5,992	8,179	7,022	7,075	11,379	8,262	8,572	6,142	8,989	7,597	6,666
03B3	γ	6,068	6,636	4,979	8,629	9,170	8,996	9,807	12,779	6,638	6,995	8,121	9,267	6,347
03B4	δ	5,550	4,581	3,847	4,639	6,262	5,912	9,909	6,326	11,831	5,275	4,553	9,361	11,120
03B5	ϵ	5,493	5,073	4,447	4,646	6,023	9,756	15,802	9,654	10,269	7,162	4,818	14,918	20,740
03B6	ζ	1,976	1,094	1,752	1,905	1,897	1,446	1,992	10,125	4,575	4,755	4,253	2,750	2,641
03B7	η	3,614	2,998	3,236	2,900	4,398	2,469	5,151	3,154	2,936	4,758	3,220	3,361	6,901
03B8	ϑ	5,407	2,720	2,050	2,648	3,936	3,255	3,981	8,345	10,635	5,288	7,721	7,999	6,746
03B9	ι	899	1,361	877	835	1,522	168	80	313	1,841	879	270	144	187
03BA	κ	1,413	1,126	775	1,780	2,217	1,645	1,638	3,302	1,730	1,540	3,460	2,965	1,934
03BB	λ	19,260	6,454	7,878	14,956	19,354	14,910	16,806	11,651	8,538	10,081	19,783	20,039	20,189
03BC	μ	10,491	5,833	5,047	8,614	8,582	9,798	22,012	10,533	10,934	7,963	10,624	11,188	10,356
03BD	ν	4,227	2,087	1,937	3,462	6,618	3,279	8,013	7,829	9,097	6,747	5,241	3,936	6,561
03BE	ξ	3,797	2,476	3,922	3,546	7,243	3,904	8,134	4,269	7,000	4,618	3,465	5,975	15,154
03C0	π	6,439	7,687	9,665	7,929	14,571	3,595	5,596	12,372	7,723	8,631	8,867	8,966	5,065
03C1	ρ	4,685	3,354	2,793	5,740	7,403	5,634	6,551	9,491	9,068	6,222	3,965	5,261	6,356
03C2	ς	76	240	0	115	284	0	45	18	0	42	49	16	100
03C3	σ	7,260	7,394	8,977	9,581	9,382	4,485	10,072	7,864	7,328	6,790	5,870	7,789	7,830
03C4	τ	4,825	5,494	6,742	5,865	7,483	3,934	4,594	6,331	6,764	4,756	8,620	8,967	7,423
03C5	υ	28	108	15	55	9	30	0	196	0	107	149	14	4
03C6	φ	3,801	4,714	4,666	6,407	5,784	6,155	5,480	6,698	9,632	6,544	4,402	4,266	8,019
03C7	χ	2,273	1,475	2,038	2,878	3,963	594	1,515	1,561	2,887	2,690	1,546	1,798	3,345
03C8	ψ	3,337	3,566	3,954	2,702	4,474	2,377	3,427	5,066	7,593	4,475	3,616	4,101	6,671
03C9	ω	5,348	3,461	3,183	4,315	7,279	3,705	11,039	6,156	5,790	7,597	4,431	10,821	6,808
03D1	θ	252	151	115	115	399	116	160	447	38	160	173	506	253
03D5	ϕ	4,501	3,048	3,932	3,121	5,793	5,170	6,276	5,999	9,372	6,336	2,200	3,777	6,414
03D6	π	295	71	2	317	997	26	50	60	9	233	130	31	53
03F1	ϱ	129	83	49	98	241	74	0	704	433	475	156	734	671

Ucode	Id	37	39	40	41	42	43	44	45	46	47	49	51	52
0041	A	17,521	22,491	8,108	17,375	15,422	23,451	5,117	21,882	35,760	33,207	14,655	21,020	27,779
0042	B	11,202	9,409	3,586	9,385	10,308	12,148	8,371	12,919	16,394	15,433	11,526	13,378	13,931
0043	C	15,855	11,505	7,292	12,004	17,372	14,121	12,844	20,759	20,723	17,563	14,130	17,164	16,686
0044	D	9,333	7,402	8,924	6,124	7,044	10,263	7,439	9,261	9,802	9,344	10,948	10,559	9,583
0045	E	7,865	5,490	5,167	7,809	9,214	13,683	7,392	5,839	16,850	13,745	9,123	8,351	9,235
0046	F	12,829	11,716	3,722	9,316	8,868	11,780	8,386	5,657	11,463	10,191	10,996	10,652	17,160
0047	G	12,165	9,526	4,470	7,102	7,038	47,832	7,804	9,026	19,223	11,166	7,322	14,959	15,488
0048	H	13,979	5,206	9,281	4,638	9,345	14,575	5,816	14,566	14,478	18,553	13,337	10,634	13,345
0049	I	9,158	7,787	2,498	8,420	12,552	4,955	9,178	13,347	10,092	10,214	7,172	6,071	10,708
004A	J	5,960	2,330	1,631	3,454	4,602	3,632	4,185	4,716	4,711	5,218	2,536	4,210	4,715
004B	K	8,730	7,497	3,552	8,394	7,843	11,488	10,654	9,967	13,566	9,848	16,216	8,776	12,714
004C	L	13,209	11,583	15,298	13,589	21,056	23,529	12,347	23,272	13,528	16,255	15,553	12,057	12,650
004D	M	15,955	12,932	5,133	9,019	9,217	12,264	5,187	12,074	17,748	13,071	16,047	13,396	15,711
004E	N	13,625	9,085	2,804	17,345	18,721	14,025	13,480	18,128	14,262	13,715	8,741	6,980	8,064
004F	O	4,188	2,062	1,699	4,147	3,333	3,452	3,991	2,224	3,073	2,853	1,877	3,674	2,625
0050	P	9,973	14,665	2,073	14,209	13,829	14,676	12,448	8,588	10,108	13,597	11,493	19,457	25,120
0051	Q	6,041	6,817	4,946	4,488	14,005	4,558	2,283	5,315	4,825	7,074	5,288	7,978	7,532
0052	R	10,461	10,624	4,317	7,990	13,246	10,712	8,635	21,400	8,303	9,860	10,942	15,982	9,020
0053	S	14,642	12,218	5,660	13,287	12,568	17,193	10,506	10,299	13,019	15,519	12,467	21,191	21,221
0054	T	18,193	7,781	7,156	12,008	16,722	14,621	12,890	18,630	15,396	23,506	18,753	14,365	13,954
0055	U	10,086	6,499	2,566	5,194	5,318	8,759	4,628	6,213	9,425	10,152	7,921	8,916	4,681
0056	V	9,002	8,617	1,869	7,697	5,930	9,035	8,091	4,224	8,141	10,174	10,727	12,378	9,191
0057	W	7,309	4,537	2,991	5,956	5,079	9,880	3,929	9,518	5,568	6,884	7,014	11,554	3,862
0058	X	19,010	15,691	11,695	8,713	6,929	25,295	8,821	9,614	25,625	18,955	11,927	18,809	18,210
0059	Y	5,529	3,885	2,991	4,070	2,251	6,450	3,455	1,283	6,373	5,410	3,930	5,667	5,695
005A	Z	4,416	3,205	4,691	2,532	3,244	4,100	3,129	1,229	4,248	3,577	1,226	4,625	3,888
0061	a	16,392	24,609	39,912	40,850	15,808	16,592	19,111	11,903	22,855	19,087	11,050	24,764	20,590
0062	b	9,049	11,382	31,175	27,127	10,521	7,292	15,026	7,753	11,586	10,482	6,114	12,997	13,888
0063	c	12,663	11,655	10,097	14,941	10,074	9,987	10,499	12,459	9,161	9,144	9,079	13,925	12,430
0064	d	20,594	15,323	42,411	18,926	27,767	22,308	33,749	34,202	15,609	16,665	24,204	23,290	32,757
0065	e	9,126	8,957	15,604	9,893	11,055	12,300	13,644	9,818	13,977	12,212	6,358	9,857	12,839
0066	f	26,696	17,971	23,101	27,738	30,526	29,703	36,746	19,839	20,849	23,866	15,930	16,687	15,733
0067	g	14,966	7,876	10,505	12,038	10,119	16,111	19,243	7,400	10,720	10,812	12,872	8,548	9,614
0068	h	11,528	9,621	3,365	8,860	7,370	9,984	7,734	10,171	8,772	10,333	17,073	8,250	8,361
0069	i	34,497	39,236	24,733	39,123	29,398	28,830	20,337	14,941	38,332	33,723	42,142	55,512	54,295
006A	j	19,428	27,335	27,010	29,418	35,279	16,732	18,326	12,459	21,568	24,184	16,222	28,161	27,569
006B	k	34,295	35,479	86,183	37,184	37,933	25,781	42,850	44,502	29,628	36,708	32,257	33,986	36,405
006C	l	8,858	9,944	16,318	9,398	8,681	5,211	4,340	4,588	8,120	7,317	5,434	6,517	8,347
006D	m	17,087	28,255	27,894	25,262	22,032	16,410	32,258	20,716	16,266	15,780	9,567	18,576	21,699
006E	n	51,655	67,386	66,226	69,269	57,609	44,069	66,799	53,143	54,379	55,323	34,615	55,292	65,621
006F	o	1,689	1,956	271	1,520	912	1,474	341	759	1,758	1,112	2,576	2,863	2,255
0070	p	19,718	22,246	17,967	21,312	23,372	23,082	18,272	22,951	24,449	20,422	24,945	25,907	23,830
0071	q	12,584	45,284	20,228	13,348	11,106	9,770	15,771	13,871	11,955	9,305	10,800	16,879	12,417
0072	r	13,932	9,515	19,242	15,889	13,905	14,968	13,915	7,636	14,290	12,258	12,254	22,683	17,327
0073	s	18,672	11,755	19,123	22,910	15,172	15,646	14,428	22,598	17,336	14,359	21,765	12,098	12,364
0074	t	32,308	29,676	29,543	33,428	26,042	17,836	29,578	68,694	25,235	30,275	54,186	21,408	18,936
0075	u	16,720	10,485	18,817	9,704	12,261	14,468	7,353	20,962	13,748	14,418	36,340	10,554	11,762
0076	v	13,120	10,691	7,955	5,784	7,773	7,805	5,575	10,320	10,395	8,512	17,991	20,118	19,341
0077	w	7,984	5,674	19,191	13,206	8,039	10,010	16,688	15,219	6,830	9,369	10,740	12,927	8,410
0078	x	44,535	53,813	45,947	45,605	53,075	41,523	67,940	40,844	38,202	42,121	67,861	44,372	40,097
0079	y	14,171	13,712	11,134	8,153	15,756	13,179	26,876	16,459	13,706	14,083	22,210	18,789	14,330
007A	z	19,638	44,398	61,467	36,374	20,116	17,409	24,376	18,502	11,954	18,012	12,413	22,867	12,054
0393	Γ	6,561	7,324	4,266	5,194	3,751	4,209	5,210	10,566	5,538	3,756	4,189	6,071	4,243
0394	Δ	3,294	5,507	6,765	5,039	3,344	4,720	3,082	4,930	3,927	3,422	3,390	7,120	10,628
0398	Θ	668	2,664	2,124	590	659	1,284	124	941	890	1,389	746	445	1,395
039B	Λ	4,788	4,676	390	2,360	3,825	2,587	1,397	1,582	3,676	3,239	1,606	4,822	3,915
039E	Ξ	277	61	0	861	350	1,159	194	149	343	354	235	111	323
03A0	Π	1,472	423	84	2,162	435	590	1,607	342	724	994	467	2,412	1,233
03A3	Σ	2,752	2,831	4,436	1,313	1,786	1,702	287	1,508	1,464	1,213	2,568	3,630	3,147
03A5	Υ	176	0	0	150	34	237	0	0	223	261	37	28	160
03A6	Φ	3,530	4,364	1,274	4,272	3,904	3,835	2,655	2,780	3,784	5,186	2,927	2,049	1,771
03A8	Ψ	1,496	1,432	0	1,632	962	1,460	1,025	2,224	1,676	1,637	1,723	1,381	600
03A9	Ω	4,509	2,157	7,921	3,549	6,829	5,163	4,892	3,946	4,972	4,519	17,543	5,459	3,607
03B1	α	16,088	15,485	18,545	13,287	16,886	15,687	28,592	19,197	15,715	16,371	14,927	11,020	11,452

Ucode	Id	37	39	40	41	42	43	44	45	46	47	49	51	52
03B2	β	7,480	4,476	5,099	4,647	5,991	4,762	8,852	7,005	7,554	6,662	9,020	4,682	4,367
03B3	γ	9,797	8,316	4,691	4,294	5,183	4,604	7,936	4,438	6,738	5,802	8,057	8,742	6,160
03B4	δ	7,305	3,433	5,915	7,287	9,117	7,445	4,651	11,315	6,721	5,683	10,176	4,949	5,107
03B5	ϵ	13,050	8,433	31,923	6,516	10,700	7,050	6,196	21,561	9,515	8,727	14,126	4,627	7,229
03B6	ζ	2,562	3,600	9,655	7,081	2,881	1,489	1,584	502	1,884	2,606	2,267	722	715
03B7	η	5,067	4,425	1,920	1,313	3,360	4,997	6,724	2,727	4,811	4,377	3,761	2,702	1,770
03B8	ϑ	5,678	6,672	934	6,637	7,203	6,692	4,542	5,850	4,595	4,823	6,784	4,000	3,554
03B9	ι	276	128	0	86	155	689	147	74	1,570	1,902	85	404	340
03BA	κ	2,539	5,295	50	3,010	2,374	1,300	675	1,358	1,110	1,555	1,255	497	1,353
03BB	λ	12,516	17,146	15,162	13,559	12,737	11,970	12,292	18,010	10,310	16,309	10,220	7,623	10,285
03BC	μ	12,907	12,987	4,963	12,116	14,942	12,962	14,296	3,379	9,852	10,934	8,103	5,952	6,233
03BD	ν	5,286	3,996	1,019	6,409	8,446	8,107	13,698	4,994	4,317	4,264	4,243	1,259	2,045
03BE	ξ	8,300	5,172	1,869	7,822	17,973	11,201	17,053	7,411	7,658	7,858	6,494	3,640	3,147
03C0	π	9,050	4,921	7,445	10,333	11,479	17,606	8,759	4,481	9,693	8,059	6,340	8,356	8,452
03C1	ρ	6,006	10,217	1,223	5,315	5,886	5,770	7,796	4,320	5,969	5,491	6,400	4,609	4,288
03C2	ς	156	0	0	159	0	82	0	0	44	22	37	0	61
03C3	σ	7,341	7,932	4,708	5,668	7,839	8,385	9,046	5,165	8,360	8,986	8,922	6,993	9,179
03C4	τ	8,344	7,151	8,941	5,259	5,034	3,835	2,881	15,507	7,773	4,958	7,714	4,609	4,372
03C5	υ	106	0	0	0	56	0	0	0	88	50	0	25	31
03C6	φ	6,257	5,523	3,467	3,221	5,984	4,992	4,472	4,941	6,893	7,211	6,429	3,057	4,331
03C7	χ	2,135	1,131	220	1,214	4,384	3,509	2,205	2,556	2,742	3,790	1,527	1,189	1,814
03C8	ψ	3,895	3,729	1,529	5,259	5,296	6,210	4,698	3,454	5,799	4,681	6,784	1,629	2,443
03C9	ω	9,615	7,619	9,128	2,954	5,851	9,177	6,592	3,999	6,758	5,376	3,177	4,607	4,223
03D1	θ	227	195	186	142	126	319	69	0	193	307	200	235	244
03D5	ϕ	5,287	2,168	1,529	6,004	6,648	6,509	4,302	5,850	8,104	8,390	8,605	4,454	2,693
03D6	π	6	384	0	0	0	871	77	0	28	13	83	212	40
03F1	ϱ	136	206	0	0	249	84	0	1,058	426	969	292	0	247

Ucode	Id	53	54	55	57	58	60	62	65	68	70	74	76	78
0041	A	18,753	25,125	30,951	20,505	19,810	16,020	13,238	14,005	19,012	21,506	10,708	11,827	8,534
0042	B	10,584	13,910	18,665	14,407	11,327	12,680	7,247	9,791	10,656	6,331	11,149	8,356	7,668
0043	C	15,700	20,022	25,386	20,365	16,081	11,984	9,393	10,198	14,319	14,943	11,062	16,276	6,883
0044	D	11,847	8,388	10,394	14,869	14,191	8,684	8,656	9,827	10,029	15,425	10,777	10,785	5,696
0045	E	10,858	9,247	15,017	11,203	11,979	9,909	9,030	6,949	5,003	5,698	12,579	3,997	4,528
0046	F	11,886	16,963	16,444	15,264	9,696	8,509	12,198	10,857	11,963	10,186	10,049	8,504	11,372
0047	G	14,445	25,970	27,207	20,008	14,028	8,382	5,436	5,571	11,062	11,004	8,657	5,682	5,857
0048	H	16,674	11,159	25,266	20,996	14,861	8,633	6,465	8,408	7,396	19,339	20,062	14,378	10,043
0049	I	6,537	6,918	9,036	6,465	7,410	7,518	6,950	7,044	9,366	8,226	3,604	3,949	6,944
004A	J	10,299	2,179	3,148	5,720	5,937	3,423	3,702	3,200	2,990	9,439	1,758	4,438	4,468
004B	K	9,257	16,418	13,663	19,454	9,160	8,932	9,424	7,978	7,717	5,491	25,264	8,701	6,118
004C	L	14,983	16,046	14,990	16,350	15,815	11,773	7,477	11,410	9,827	20,098	17,445	23,430	14,492
004D	M	30,988	15,561	24,470	32,369	27,665	9,139	10,419	9,312	9,407	19,571	6,283	10,232	12,338
004E	N	10,426	8,560	9,065	12,855	11,102	18,998	17,167	15,084	8,767	13,168	13,691	11,013	24,616
004F	O	3,971	4,161	4,080	3,313	3,873	2,381	2,219	2,493	4,411	5,173	627	1,148	2,354
0050	P	11,700	9,825	15,608	12,607	12,925	12,443	16,274	8,336	18,589	10,720	5,046	4,964	9,601
0051	Q	5,407	4,078	6,764	4,799	5,626	4,763	4,574	5,755	5,846	8,776	5,643	3,146	5,394
0052	R	10,937	10,119	11,675	9,913	11,291	9,457	5,827	9,282	8,735	12,187	7,116	13,671	12,902
0053	S	18,266	19,134	26,187	27,751	14,524	12,190	10,401	11,942	18,096	12,582	13,468	8,914	12,318
0054	T	16,985	14,899	15,308	17,049	14,718	16,211	12,603	13,872	11,699	17,079	14,872	28,826	6,360
0055	U	8,339	18,593	11,830	7,690	9,870	5,424	5,108	7,811	10,036	10,798	10,534	6,989	5,676
0056	V	12,481	14,327	11,150	11,704	10,547	5,920	6,224	8,529	10,984	10,581	7,159	6,633	7,910
0057	W	7,122	5,945	7,541	9,535	6,156	5,974	2,951	4,771	5,268	5,784	6,177	9,387	4,911
0058	X	23,693	55,310	43,408	23,647	21,814	19,090	24,226	9,175	29,818	18,333	9,260	10,652	2,677
0059	Y	9,396	15,643	15,116	9,073	7,266	7,293	12,062	3,626	13,540	7,711	6,165	8,069	2,556
005A	Z	6,000	6,636	7,709	7,135	5,590	6,327	9,717	2,457	7,567	6,748	1,814	4,932	2,053
0061	a	18,114	16,034	17,109	18,196	17,140	15,563	13,231	23,796	23,747	17,441	22,455	12,061	14,814
0062	b	10,781	9,296	9,839	13,267	9,878	9,859	7,519	10,511	13,838	9,013	13,691	6,548	5,796
0063	c	12,132	9,946	9,926	13,365	11,694	13,829	12,233	13,184	15,552	7,859	5,425	8,031	6,964
0064	d	22,373	14,512	14,636	14,968	21,992	27,431	23,713	21,371	19,616	22,587	23,859	23,452	26,750
0065	e	14,102	6,011	8,783	10,186	12,478	11,234	10,516	9,614	8,369	15,592	10,323	11,295	5,354
0066	f	16,344	40,781	22,943	16,893	18,384	15,923	27,419	23,560	19,013	12,798	8,626	17,854	20,530
0067	g	23,064	19,527	14,414	16,298	19,523	7,903	10,049	9,818	11,244	15,684	19,789	9,610	3,099
0068	h	11,224	10,791	8,042	9,969	11,639	9,333	20,265	20,243	7,594	13,326	23,418	12,550	7,427
0069	i	40,529	35,156	42,470	44,936	35,541	34,497	38,040	43,886	53,883	44,356	30,274	18,545	32,466
006A	j	20,580	16,720	17,419	18,774	21,775	22,103	30,077	30,824	26,547	23,574	14,531	12,895	26,850
006B	k	28,512	28,349	30,281	28,725	29,020	34,486	40,343	43,696	38,548	36,320	28,378	25,886	73,104
006C	l	8,037	5,851	6,310	7,484	8,971	7,840	8,405	11,341	9,699	4,003	6,053	4,486	38,987
006D	m	14,497	14,070	18,505	16,742	15,298	17,406	23,776	20,188	20,537	20,524	10,373	7,330	21,677
006E	n	33,599	53,441	56,170	43,629	36,884	68,608	75,938	59,526	70,125	36,274	43,736	27,874	57,304
006F	o	2,319	1,603	5,337	2,542	2,656	1,930	1,545	1,636	2,839	1,182	1,908	1,387	2,053
0070	p	21,293	22,105	27,363	23,368	20,329	18,871	16,221	18,571	26,915	21,000	11,199	20,209	18,638
0071	q	10,289	6,609	13,008	14,264	12,042	9,017	7,341	12,415	9,285	23,827	5,400	9,392	6,360
0072	r	15,761	10,150	15,005	14,954	15,590	15,560	11,347	14,233	19,755	16,851	12,828	16,201	22,342
0073	s	17,282	13,661	14,378	14,567	18,222	24,547	19,721	23,129	17,318	23,136	24,512	29,921	16,827
0074	t	25,994	14,724	15,941	22,768	28,061	54,887	45,626	45,320	26,972	28,517	65,824	80,987	36,814
0075	u	15,153	8,005	8,006	8,544	16,700	17,387	15,768	24,193	14,784	13,810	54,935	35,566	21,476
0076	v	13,711	6,210	8,309	12,784	11,771	9,093	7,903	12,341	15,509	16,011	23,866	14,676	11,533
0077	w	7,728	5,014	4,578	8,765	6,108	6,540	7,997	8,581	12,656	6,408	10,957	14,686	4,247
0078	x	30,947	53,836	23,491	25,101	36,773	50,985	57,046	55,394	43,467	35,184	43,475	45,490	45,952
0079	y	11,824	22,450	9,053	9,892	13,626	18,595	18,130	18,639	14,247	15,947	10,043	16,302	10,406
007A	z	12,804	9,553	4,733	9,534	12,104	14,589	9,717	18,147	16,016	15,474	9,801	12,273	9,520
0393	Γ	6,531	5,758	5,892	7,623	7,833	4,324	2,951	3,483	3,791	3,142	8,322	6,713	1,811
0394	Δ	3,471	3,671	8,086	5,588	5,075	4,731	5,879	6,971	5,733	3,151	5,345	6,580	15,337
0398	Θ	1,146	635	757	919	950	640	2,533	268	1,431	787	752	706	221
039B	Λ	4,164	1,537	2,998	3,527	4,881	5,517	2,889	2,440	1,793	3,639	12	1,727	322
039E	Ξ	437	69	294	352	447	333	104	109	55	2,586	142	207	0
03A0	Π	1,123	448	773	633	2,020	1,182	903	498	1,007	1,071	397	2,397	0
03A3	Σ	5,719	2,668	6,781	8,145	3,668	773	369	1,657	2,447	5,328	466	861	1,912
03A5	Υ	268	26	100	113	283	185	0	120	147	558	0	47	0
03A6	Φ	4,359	2,391	2,302	2,386	3,288	2,430	2,571	1,938	1,989	3,235	3,977	2,934	1,912
03A8	Ψ	1,855	984	932	1,138	1,651	1,081	443	1,376	1,345	1,497	1,379	2,423	7,950
03A9	Ω	5,502	4,570	5,693	3,214	6,369	2,615	1,374	6,232	2,580	6,081	37,670	12,560	2,636
03B1	α	18,475	18,414	13,713	15,768	16,042	15,776	20,482	15,094	21,175	15,573	10,335	16,627	21,194

Ucode	Id	53	54	55	57	58	60	62	65	68	70	74	76	78
03B2	β	8,161	7,247	6,824	7,628	6,818	9,547	12,442	6,677	13,176	7,933	6,345	7,037	17,370
03B3	γ	10,159	6,488	6,407	9,710	10,080	9,608	8,130	6,831	9,038	10,529	2,834	8,515	6,440
03B4	δ	6,838	5,407	3,417	4,728	7,778	9,010	10,757	10,595	6,022	5,439	19,857	9,950	3,019
03B5	ϵ	9,607	6,850	3,687	6,983	11,443	14,222	12,289	11,748	5,926	4,932	26,439	20,475	4,850
03B6	ζ	2,432	1,073	971	1,614	2,315	2,033	1,451	2,877	1,650	1,364	720	6,506	3,784
03B7	η	5,434	2,810	3,031	3,490	5,287	8,222	3,824	4,006	1,744	2,775	6,476	8,898	8,936
03B8	ϑ	6,318	2,378	2,656	4,467	6,856	7,409	17,310	5,833	8,464	7,473	1,951	7,861	7,467
03B9	ι	1,172	386	1,674	833	573	201	6	618	242	253	12	42	40
03BA	κ	1,944	2,707	1,031	1,720	1,983	3,307	851	1,230	434	2,058	1,311	2,849	342
03BB	λ	12,986	5,643	4,054	8,686	17,747	12,089	11,431	11,600	8,009	14,576	5,059	7,043	10,969
03BC	μ	8,315	5,481	4,839	6,015	9,424	13,588	10,593	11,341	6,976	10,199	5,425	6,787	3,341
03BD	ν	4,688	11,132	2,411	3,777	4,593	8,068	4,651	4,553	2,106	6,636	3,325	11,003	3,522
03BE	ξ	8,023	3,616	2,588	4,743	7,531	6,285	4,741	8,936	2,300	9,106	5,108	11,385	25,019
03C0	π	9,778	6,165	10,262	12,060	10,232	7,542	7,442	9,886	7,031	8,612	2,131	3,763	16,162
03C1	ρ	7,472	4,444	3,253	5,641	7,114	8,621	5,397	6,061	2,213	5,741	3,847	6,096	13,948
03C2	ς	27	793	51	35	174	78	383	38	151	166	49	0	100
03C3	σ	6,872	4,683	9,663	8,777	9,233	9,449	8,995	7,011	6,157	3,512	7,557	4,980	21,516
03C4	τ	6,339	7,987	5,436	6,753	5,894	7,360	9,312	8,510	4,298	8,186	8,570	16,095	15,800
03C5	υ	568	131	36	61	199	193	443	6	53	404	0	0	0
03C6	φ	7,878	6,576	5,443	5,825	8,265	5,149	5,680	4,188	5,398	9,995	4,021	6,570	2,999
03C7	χ	1,509	1,171	1,474	2,690	2,469	1,372	868	1,289	1,044	1,586	1,069	579	1,771
03C8	ψ	5,294	3,445	3,024	3,525	5,875	4,117	4,340	5,427	2,523	3,090	4,561	6,272	13,908
03C9	ω	10,197	10,884	3,706	5,874	8,405	6,268	3,894	6,914	4,516	10,226	4,300	18,535	5,333
03D1	θ	226	14	230	118	283	388	816	536	213	944	279	552	483
03D5	ϕ	5,742	5,335	2,348	4,038	7,122	4,496	4,783	3,413	1,343	4,148	3,884	7,096	3,683
03D6	π	339	219	12	104	33	58	0	25	16	101	43	180	60
03F1	ϱ	353	388	93	225	1,084	204	157	0	73	30	0	0	0

Ucode	Id	80	81	82	83	85	86	90	91	92	93	94	97
0041	A	6,993	25,905	14,548	13,956	5,693	14,279	27,769	13,872	23,751	18,373	22,573	34,759
0042	B	3,797	13,112	14,132	9,613	18,432	7,042	9,461	11,019	12,167	9,484	9,723	31,283
0043	C	11,438	13,817	11,569	13,158	12,698	12,939	12,648	12,937	14,834	9,107	16,626	22,773
0044	D	8,197	8,233	6,526	10,922	4,137	17,983	8,357	8,805	11,145	11,889	13,175	958
0045	E	1,667	9,912	9,264	15,838	1,966	3,776	11,252	10,158	12,207	5,545	9,554	839
0046	F	6,066	11,256	6,522	12,674	7,168	8,041	14,265	8,338	7,271	6,306	9,046	9,948
0047	G	6,252	10,455	7,809	11,358	1,966	7,773	13,904	16,959	7,961	7,744	13,517	7,311
0048	H	13,661	16,746	9,001	13,935	5,488	16,180	6,408	12,113	6,090	8,249	8,904	10,427
0049	I	3,843	7,600	6,255	5,058	983	13,475	10,790	4,587	18,310	7,240	6,008	3,116
004A	J	15,699	5,709	5,312	5,522	491	8,650	2,624	2,533	12,154	2,533	2,343	4,554
004B	K	3,149	8,678	8,639	11,951	6,267	4,824	8,886	9,297	11,424	8,535	6,790	8,030
004C	L	10,003	16,841	15,265	18,681	8,356	20,541	9,861	14,758	7,271	10,519	13,103	24,811
004D	M	17,968	15,649	8,874	31,117	35,923	4,581	10,998	6,124	12,937	11,739	12,488	3,835
004E	N	4,538	13,965	26,744	11,270	57,797	6,091	7,259	11,216	25,993	12,349	17,364	25,050
004F	O	1,343	3,019	2,377	2,631	696	2,046	3,412	1,279	2,215	1,807	3,545	7,071
0050	P	9,030	10,954	10,938	10,929	2,375	8,747	22,262	13,282	29,217	12,496	16,074	6,112
0051	Q	3,936	4,279	6,404	6,613	40	2,363	9,348	9,506	2,627	10,707	5,337	479
0052	R	3,102	12,037	12,350	9,756	24,372	17,788	7,760	16,455	8,412	8,855	12,309	12,825
0053	S	10,188	12,147	10,078	14,079	25,478	16,326	13,668	11,757	22,742	7,921	14,665	24,331
0054	T	16,301	13,172	11,616	12,470	14,213	37,404	14,405	30,561	16,108	22,488	11,474	8,390
0055	U	8,752	11,107	4,860	5,508	2,130	5,945	7,377	5,079	11,822	4,668	6,617	1,558
0056	V	9,169	12,094	5,973	11,058	3,645	4,727	7,574	5,128	5,188	13,840	8,365	4,195
0057	W	1,945	7,867	5,667	9,095	25,887	9,284	3,283	4,599	8,385	6,159	7,154	239
0058	X	30,658	14,396	10,243	20,856	11,469	6,579	12,496	25,162	18,483	18,222	19,058	4,075
0059	Y	833	7,483	4,592	9,538	23,102	5,799	3,362	10,785	7,709	10,026	7,401	2,157
005A	Z	185	3,540	4,358	1,806	1,679	4,069	1,903	5,780	5,519	4,446	3,109	1,318
0061	a	24,915	31,930	18,021	24,599	17,859	14,279	15,295	21,657	26,006	20,846	22,748	18,578
0062	b	17,227	16,367	16,356	10,124	8,233	7,139	14,186	12,298	12,658	8,742	11,452	12,825
0063	c	21,210	10,915	15,436	12,926	3,276	8,942	20,612	9,396	6,767	12,055	10,806	7,790
0064	d	67,846	18,189	24,729	21,244	30,024	21,955	25,838	28,298	15,497	21,310	24,185	33,680
0065	e	15,051	15,801	13,195	12,551	25,519	14,888	11,330	11,351	13,945	8,968	16,407	22,054
0066	f	9,771	16,098	14,548	12,865	29,492	9,308	26,300	18,570	12,658	16,581	28,208	18,218
0067	g	13,939	15,567	6,228	22,103	6,267	3,655	8,881	6,850	5,095	8,565	15,723	6,352
0068	h	6,946	12,188	10,804	12,769	4,137	15,790	8,177	16,012	5,970	9,909	12,510	17,499
0069	i	10,234	43,985	42,621	41,378	49,522	13,621	65,981	41,015	44,450	44,137	41,810	15,342
006A	j	34,085	26,757	24,710	24,715	5,857	10,843	33,305	22,358	30,478	31,656	22,883	18,578
006B	k	90,862	32,300	33,825	26,092	28,140	21,297	35,603	29,626	64,870	27,627	33,169	24,211
006C	l	4,723	11,206	12,243	4,411	10,609	8,187	7,799	4,193	9,487	11,310	7,408	3,955
006D	m	20,793	18,681	20,142	13,547	16,876	7,797	28,642	9,851	13,507	20,188	26,808	40,752
006E	n	25,239	39,823	55,632	22,308	25,519	3,045	47,965	42,515	47,462	40,440	59,018	84,861
006F	o	1,759	2,462	1,948	2,597	901	2,193	1,942	750	1,764	2,673	1,349	1,318
0070	p	28,110	18,835	21,621	21,094	35,923	6,652	18,995	22,198	9,938	18,851	27,238	24,691
0071	q	36,076	23,869	15,637	6,592	14,582	11,988	8,954	25,900	11,968	11,935	14,173	5,393
0072	r	7,965	14,797	16,096	21,374	32,646	9,990	18,984	14,881	35,268	13,742	15,626	4,195
0073	s	16,764	18,570	17,905	14,229	40,224	35,528	16,810	28,015	25,263	32,842	12,381	7,431
0074	t	53,165	29,378	37,716	27,169	62,548	65,232	30,867	79,288	39,182	73,161	25,695	17,739
0075	u	16,625	15,781	15,354	19,022	3,276	30,264	16,450	17,168	10,004	16,795	11,041	9,588
0076	v	16,533	11,467	11,908	20,535	27,075	10,331	19,705	8,830	11,849	10,956	11,697	1,797
0077	w	8,104	10,692	8,052	7,458	14,500	6,067	9,145	11,597	2,746	8,230	8,500	359
0078	x	49,089	29,941	46,210	34,805	46,942	48,954	62,123	53,178	29,642	62,680	51,245	189,500
0079	y	12,133	9,682	17,699	9,701	27,526	36,210	18,500	17,635	15,219	13,923	18,500	25,770
007A	z	8,150	18,516	16,598	11,147	4,382	12,378	15,391	9,346	7,337	17,292	22,723	4,914
0393	Γ	787	4,532	4,621	11,815	450	1,218	1,160	811	4,498	1,837	3,799	0
0394	Δ	15,143	7,018	4,963	6,027	7,987	9,259	6,617	4,538	2,268	2,556	3,009	0
0398	Θ	509	744	776	1,138	1,310	804	1,210	627	942	579	3,668	0
039B	Λ	370	4,835	12,764	4,070	122	3,898	1,424	1,758	1,167	1,012	3,649	0
039E	Ξ	231	282	373	190	0	0	557	688	39	681	47	0
03A0	Π	0	1,300	489	381	0	0	642	270	729	248	414	0
03A3	Σ	0	1,229	570	4,261	4,382	268	388	1,967	689	1,592	856	0
03A5	Υ	0	140	184	252	0	0	242	0	822	37	0	0
03A6	Φ	370	2,693	2,276	2,461	1,310	609	1,188	418	1,247	1,144	2,946	0
03A8	Ψ	0	1,945	972	2,611	7,373	146	1,723	996	1,207	877	1,170	0
03A9	Ω	972	4,858	2,436	4,902	4,423	2,582	1,458	1,955	1,313	4,536	2,613	0
03B1	α	22,414	17,870	10,672	21,149	10,117	12,622	10,739	10,244	15,803	21,878	12,855	8,150

Ucode	Id	80	81	82	83	85	86	90	91	92	93	94	97
03B2	β	2,269	9,980	10,677	10,670	5,325	6,822	6,020	8,977	10,561	11,856	6,109	4,075
03B3	γ	8,243	8,526	10,921	13,281	7,700	14,961	7,535	5,460	7,058	8,219	5,349	958
03B4	δ	8,197	6,957	8,520	9,797	3,563	15,546	5,778	4,427	9,128	8,004	6,517	479
03B5	ϵ	5,835	6,953	12,941	17,038	10,035	54,851	10,080	7,514	12,419	12,673	9,209	359
03B6	ζ	648	2,740	2,783	2,229	204	1,340	315	110	1,711	2,812	2,177	0
03B7	η	3,334	4,440	11,869	6,981	0	9,405	2,630	1,795	4,962	2,300	1,810	0
03B8	ϑ	5,279	4,597	5,472	2,161	11,428	26,365	4,629	15,397	16,784	8,486	12,980	56,933
03B9	ι	0	735	357	245	81	0	0	0	398	11	696	0
03BA	κ	370	2,111	3,735	2,556	0	1,705	1,064	332	318	3,829	881	0
03BB	λ	1,852	17,619	14,858	14,106	368	10,794	13,493	9,248	7,841	8,994	11,647	0
03BC	μ	9,540	8,620	11,477	12,340	3,727	15,838	10,536	10,109	7,364	7,432	6,633	1,797
03BD	ν	19,682	5,177	9,577	3,361	122	8,285	3,345	1,291	4,352	5,176	3,743	0
03BE	ξ	7,502	5,623	6,105	3,033	122	9,040	4,510	4,132	1,844	3,621	5,842	0
03C0	π	9,077	8,843	6,287	6,688	14,787	3,484	5,051	4,661	4,630	6,163	8,713	19,896
03C1	ρ	1,389	6,555	11,137	4,206	3,154	4,215	9,145	3,701	3,343	5,444	6,055	0
03C2	ς	0	81	45	47	0	0	0	0	145	86	0	0
03C3	σ	926	8,159	12,152	7,145	3,727	5,068	7,783	8,289	14,157	6,931	5,469	1,078
03C4	τ	31,676	4,493	6,835	9,892	819	17,057	8,396	12,950	7,523	8,862	4,239	599
03C5	υ	1,667	173	188	54	0	0	473	0	172	18	75	0
03C6	φ	7,039	5,390	4,781	7,117	3,481	1,072	3,846	11,228	3,078	4,826	4,079	4,434
03C7	χ	740	2,386	1,921	2,311	7,004	438	720	1,143	2,454	1,701	2,930	0
03C8	ψ	602	5,887	3,023	13,901	245	14,474	1,317	2,927	2,229	5,858	3,178	0
03C9	ω	4,260	6,396	8,554	3,238	40	22,978	2,900	2,299	10,734	7,831	4,512	958
03D1	θ	555	418	242	504	0	1,315	715	2,656	331	655	87	0
03D5	ϕ	648	6,347	4,657	10,260	5,202	7,992	1,987	2,754	995	3,437	5,218	3,475
03D6	π	0	57	33	211	0	0	0	0	0	0	0	0
03F1	ϱ	463	234	124	7,124	0	2,436	208	4,242	92	1,103	56	0

Appendix C

Frequency of All Operators

Total number of operators in classifications							
Class.	#	Class.	#	Class.	#	Class.	#
all	32,669,624	20	1,825,556	44	73,831	70	173,891
00	10,760	22	1,005,637	45	55,072	74	81,772
01	34,657	26	301,392	46	2,039,000	76	108,173
03	351,902	28	208,064	47	974,808	78	29,164
05	1,849,745	30	546,865	49	269,155	80	12,228
06	248,307	31	114,772	51	208,778	81	1,209,811
08	62,961	32	1,463,898	52	516,777	82	633,361
11	2,291,091	33	719,216	53	2,967,592	83	78,930
12	202,470	34	584,095	54	242,328	85	11,299
13	1,081,561	35	1,635,618	55	1,007,773	86	23,135
14	4,410,965	37	1,248,651	57	2,131,407	90	102,035
15	410,855	39	106,324	58	1,847,435	91	50,365
16	1,655,413	40	35,082	60	1,762,089	92	47,491
17	1,692,110	41	164,193	62	172,923	93	152,368
18	835,093	42	555,806	65	278,202	94	189,505
19	460,815	43	233,762	68	328,833	97	5,547

Note:
The table given in the following pages gives the frequency of characters appearing in single character operators. The Unicode value of the character is given, as well as a representative glyph. The columns of the table correspond to the MR subject classifications. The entries give the number of times the character occurs per million single-character operators in documents in the given classification.

Ucode	Op	all	00	01	03	05	06	08	11	12	13	14	15	16
0021	!	2,198	1,951	2,308	2,438	5,058	2,339	603	3,692	2,578	2,699	2,706	3,429	2,163
0022	“	4,115	0	1,558	6,177	3,315	4,824	3,764	2,849	6,149	2,951	4,726	2,453	4,292
0023	#	1,462	1,115	2,048	878	1,712	1,079	63	1,921	1,170	919	1,338	1,521	3,043
0024	$	7	92	0	25	48	16	0	0	0	0	0	0	0
0025	%	24	92	28	5	8	4	63	16	83	0	12	21	1
0026	&	52	92	115	943	75	616	15	13	44	18	21	228	127
002A	*	29,210	11,895	18,986	32,796	18,597	18,783	18,789	17,757	17,039	24,119	35,898	23,752	37,691
002B	+	79,404	123,327	91,583	60,121	96,931	76,397	41,009	94,172	71,338	84,550	78,257	87,906	60,461
002C	,	112,818	117,843	93,949	100,880	121,317	94,169	104,922	104,964	98,839	103,263	107,718	119,742	101,337
002D	−	116,064	112,360	108,809	60,732	145,459	75,318	66,835	128,330	107,941	102,940	109,551	132,939	93,008
002E	.	1,477	1,208	14,253	3,296	552	1,151	1,064	117	523	1,118	312	593	688
002F	/	23,405	13,847	15,927	14,626	22,206	10,764	16,645	40,239	48,096	33,420	27,527	21,309	15,307
003A	:	1,956	1,022	0	2,341	637	4,131	6,432	1,412	2,202	2,379	2,630	309	3,214
003C	<	12,058	4,832	11,628	28,345	14,392	19,653	10,625	10,151	10,697	9,722	8,311	11,833	8,541
003D	=	128,715	175,371	166,748	121,806	140,626	133,081	147,535	130,735	148,002	140,810	131,163	142,159	146,704
003E	>	13,528	8,828	13,244	11,784	10,364	9,951	17,582	12,926	13,552	16,705	14,739	11,738	14,055
005C	\	967	92	173	215	888	1,840	349	1,855	1,007	387	948	331	471
007C	|	91	0	0	51	31	32	0	295	0	136	30	19	113
00A3	£	6	0	0	0	1	0	0	5	0	0	0	0	14
00A7	§	102	0	86	119	53	16	0	48	4	96	108	143	136
00A9	©	0	0	0	0	1	0	0	0	0	0	0	2	1
00AC	≠	49	0	86	2,389	43	370	397	1	19	4	6	7	53
00AF	¯	12,451	743	4,241	8,417	9,529	9,653	11,800	14,708	11,581	16,660	18,610	7,623	14,912
00B1	±	3,033	3,159	3,462	1,304	1,560	753	603	2,796	567	957	1,589	1,703	1,349
00B6	¶	221	0	0	1,449	153	96	0	805	0	10	762	0	193
00D7	×	11,294	4,182	10,445	9,320	6,461	7,337	6,273	10,144	10,347	5,946	14,560	12,220	8,057
00F7	÷	16	0	0	0	14	0	0	38	0	90	39	0	0
0127	ħ	617	185	259	71	39	12	47	35	44	811	564	99	546
0131	ı	37	0	0	2	69	4	0	14	128	7	7	7	3
0141	Ł	96	0	0	39	1	0	0	65	4	245	76	4	1
0142	ł	134	0	0	1,412	109	390	0	250	1,387	55	375	2	67
0152	Œ	1	0	0	0	0	0	0	0	0	0	0	0	0
02B9	′	62	92	86	0	4	68	0	73	24	79	119	12	27
02C6	ˆ	9,950	1,115	6,319	5,825	6,713	11,473	7,051	7,464	8,702	5,971	9,112	7,866	7,452
02C7	ˇ	697	7,527	0	406	254	165	190	443	513	409	944	868	437
02C9	¯	8,442	12,732	1,731	25,805	5,368	3,656	14,088	8,750	8,816	5,107	8,278	4,115	6,447
02CB	`	30	0	86	0	1	76	0	1	0	73	18	0	12
02D8	˘	117	0	0	392	255	128	0	24	158	37	50	1,034	35
02DA	˚	10	0	0	0	0	0	0	0	0	2	2	0	0
02DC	˜	16,875	9,851	11,830	9,428	11,575	8,384	8,783	12,209	15,291	12,084	18,811	12,240	13,883
2011	−−	6	0	0	0	0	4	0	0	0	0	0	0	247
2016	‖	222	0	0	0	2	0	0	212	0	0	29	389	64
2020	†	593	0	0	136	384	592	0	858	5,467	1,432	1,158	7,657	367
2021	‡	45	0	0	0	16	0	0	30	49	13	9	4	21
2026	…	8,415	12,918	7,530	13,495	16,028	10,128	18,249	7,829	9,907	19,776	10,640	11,906	9,614
2032	′	3,694	278	10,300	2,972	3,003	998	222	4,681	1,486	2,410	4,298	2,757	3,256
2035	‵	6	0	0	0	0	0	0	0	0	0	0	0	0
2061		103,090	125,464	134,864	115,262	95,824	117,487	112,545	112,484	102,089	94,905	91,878	115,736	99,220
20D7	→	1,518	1,022	1,096	3,483	2,234	8,618	3,541	2,122	4,020	1,041	482	1,063	261
2102	ℂ	852	0	0	110	208	72	0	388	34	156	1,375	980	183
210D	ℍ	73	0	0	0	14	60	0	59	0	39	61	150	37
210F	ℏ	4	0	0	0	0	0	0	13	0	0	3	0	0
2111	ℑ	140	0	0	443	70	0	0	244	29	175	108	240	15
2113	ℓ	6,877	1,579	952	5,467	10,788	5,344	2,239	10,997	7,388	7,356	6,867	6,228	3,819
2115	ℕ	149	0	0	213	235	0	0	116	4	259	123	163	83
2118	℘	185	0	0	483	209	169	0	597	335	412	294	0	120
2119	ℙ	303	0	0	349	37	8	0	92	118	316	905	613	67
211A	ℚ	272	0	0	107	50	40	0	645	69	806	878	51	102
211C	ℜ	230	185	288	107	36	0	0	763	14	60	72	204	9
211D	ℝ	791	0	0	346	209	80	0	340	108	484	502	832	172
2124	ℤ	724	0	0	579	440	253	0	1,463	197	1,276	747	352	324
2127	℧	7	0	0	0	0	0	0	2	0	0	0	0	5
2135	ℵ	184	0	0	3,893	93	1,067	1,540	37	143	42	18	4	127
2136	ℶ	3	0	0	150	7	0	0	0	0	0	0	0	1

Ucode	Op	all	00	01	03	05	06	08	11	12	13	14	15	16
2137	⌋	2	0	0	147	15	0	0	0	0	0	0	0	0
2138	⌝	2	0	0	0	0	0	0	0	0	0	0	0	51
2190	←	407	0	28	244	373	1,010	158	455	291	693	737	309	749
2191	↑	202	650	28	505	170	608	0	137	108	164	142	240	230
2192	→	23,818	23,977	27,930	24,370	10,777	17,063	30,431	18,481	21,642	32,901	36,235	16,339	33,963
2193	↓	463	185	173	966	403	1,014	397	292	306	727	741	367	668
2194	↔	46	0	57	28	96	108	0	30	29	32	59	12	112
2196	↖	26	0	0	8	79	451	0	56	4	21	11	12	24
2197	↗	72	0	173	207	113	696	31	70	4	59	36	21	91
2198	↘	77	0	317	25	53	84	47	41	14	82	77	9	132
2199	↙	33	0	0	8	41	76	15	21	14	27	43	0	29
219B	↛	0	0	0	11	0	0	0	1	4	0	0	0	0
219E	↞	2	0	0	0	2	0	0	0	0	3	0	0	7
21A0	↠	93	0	28	93	52	144	174	128	24	78	187	17	248
21A2	↢	1	0	0	0	0	0	0	0	0	0	0	0	0
21A3	↣	19	185	28	8	0	0	0	10	9	6	13	7	10
21A6	↦	2,443	1,208	4,414	4,685	1,475	3,475	2,461	2,414	3,477	2,144	2,857	2,054	3,666
21A9	↩	10	0	0	0	18	0	0	6	4	17	22	0	0
21AA	↪	581	0	692	491	231	543	873	945	572	788	1,191	311	639
21AB	↫	0	0	0	8	0	0	0	0	0	0	0	0	0
21AC	↬	6	0	0	0	4	0	0	0	0	0	0	0	10
21AD	↭	1	0	0	0	4	0	0	1	0	0	1	0	0
21AE	↮	0	0	0	0	0	0	0	0	0	0	0	0	0
21B0	↰	0	0	0	0	5	0	0	0	0	0	0	0	0
21B1	↱	0	0	0	0	5	0	0	0	0	0	0	0	0
21B6	↶	4	0	0	0	8	0	0	2	0	0	2	0	4
21B7	↷	21	0	0	0	145	0	0	0	0	0	7	0	2
21BA	↺	9	0	0	39	20	0	0	0	0	24	9	0	5
21BB	↻	9	0	0	11	2	0	0	0	0	0	7	0	0
21BC	↼	38	0	0	0	0	0	0	0	19	5	3	0	397
21BD	↽	2	0	0	0	0	8	0	0	9	4	0	0	51
21BE	↾	55	0	0	1,722	17	4	698	5	0	0	3	34	36
21BF	↿	0	0	0	2	0	0	0	0	0	0	0	0	0
21C0	⇀	77	0	0	0	18	0	95	0	0	16	16	2	537
21C1	⇁	4	0	0	0	0	8	0	0	9	6	1	0	70
21C4	⇄	8	0	0	0	4	28	0	7	0	2	8	0	63
21C5	⇅	9	0	0	11	8	0	0	0	0	0	0	0	0
21C6	⇆	127	185	230	466	199	140	111	69	177	73	82	80	177
21C7	⇇	0	0	0	0	0	0	0	0	0	0	0	0	0
21C9	⇉	54	0	0	2	0	0	0	62	0	8	52	43	79
21CA	⇊	0	0	0	0	0	0	0	0	0	0	0	0	2
21CB	⇋	0	0	0	5	0	8	0	0	0	0	0	0	1
21CC	⇌	3	0	86	31	11	0	0	0	0	1	1	0	1
21CE	⇎	0	0	0	0	0	0	0	0	0	0	0	0	0
21CF	⇏	0	0	0	2	2	0	0	0	0	0	0	0	1
21D0	⇐	22	0	0	73	23	60	0	15	64	38	15	12	43
21D1	⇑	1	0	0	0	0	0	0	0	0	0	0	0	1
21D2	⇒	658	278	1,211	2,514	635	2,307	2,080	447	839	1,415	625	810	1,468
21D3	⇓	16	0	28	0	105	24	15	1	19	0	2	0	2
21D4	⇔	326	1,022	836	1,364	478	1,824	921	325	498	653	349	1,097	630
21D5	⇕	0	0	0	0	4	0	0	0	0	0	0	0	0
21DA	⇐	0	0	0	0	0	0	0	0	0	0	0	0	1
21DD	⇝	40	0	28	53	46	56	0	9	148	34	43	24	43
21E0	⇠	0	0	0	0	1	0	0	0	0	0	0	0	0
21E2	⇢	32	0	0	14	21	0	0	13	0	9	131	2	12
2200	∀	1,146	3,438	1,990	6,390	677	1,792	2,398	848	1,363	523	740	993	974
2201	∁	6	0	0	5	14	0	0	2	0	0	4	0	4
2202	∂	11,940	9,851	12,147	943	4,481	4,466	2,207	2,665	7,670	5,166	7,135	5,773	4,461
2203	∃	259	185	230	4,990	220	644	2,318	223	325	131	202	192	236
2204	∄	0	0	0	0	0	0	0	0	0	0	0	0	0
2205	∅	1,138	464	461	4,117	1,915	2,545	857	659	1,022	1,136	1,183	834	762
2207	∇	3,880	371	2,279	159	487	551	222	501	4,129	1,125	1,791	1,652	895
2208	∈	43,942	45,910	44,810	77,021	36,612	64,673	86,434	39,319	52,644	41,860	38,614	36,338	50,037
2209	∉	923	278	952	2,651	1,429	2,013	3,525	975	1,397	1,803	948	939	862

Ucode	Op	all	00	01	03	05	06	08	11	12	13	14	15	16
220B	$\ni$	172	0	144	167	46	120	79	62	83	114	161	82	194
220F	$\prod$	2,399	6,133	1,125	2,139	4,379	1,377	2,604	5,287	2,143	2,111	2,615	5,702	1,667
2210	$\coprod$	283	464	86	429	272	197	1,397	177	158	313	303	4	572
2211	$\sum$	13,560	19,795	10,906	5,157	20,897	10,744	3,271	20,165	13,508	10,942	11,018	15,333	14,683
2214	$\dotplus$	9	0	0	0	26	157	0	21	202	0	0	0	24
2216	$\setminus$	2,581	1,486	952	5,282	3,039	5,533	7,433	1,338	1,965	3,063	2,604	2,584	1,461
2218	$\circ$	6,194	1,394	2,452	8,894	4,144	10,152	22,712	3,550	3,081	4,353	5,892	3,891	12,643
2219	$\bullet$	2,671	11,710	1,298	1,690	1,976	2,110	778	2,480	1,891	5,643	5,046	1,732	5,625
221A	$\surd$	4	371	0	76	2	0	0	0	0	0	6	0	0
221D	$\propto$	12	0	0	5	25	84	0	10	0	1	9	24	9
221E	∞	13,138	9,107	20,977	7,163	7,431	7,067	3,319	14,627	12,984	6,376	6,521	9,426	5,924
2220	$\angle$	62	0	0	45	7	4	0	13	0	20	6	0	0
2221	$\measuredangle$	7	0	0	0	0	0	0	0	0	0	0	2	0
2222	$\sphericalangle$	2	0	0	0	0	0	0	0	0	0	0	0	0
2223	$\mid$	8,444	7,063	4,443	9,883	6,096	10,362	7,846	9,474	6,504	7,125	9,474	5,464	7,841
2224	$\nmid$	73	0	0	39	38	40	0	664	162	42	93	36	24
2225	$\parallel$	615	743	461	585	493	140	190	346	335	159	132	192	151
2226	$\nparallel$	0	0	0	0	0	0	0	0	0	0	0	0	0
2227	$\wedge$	3,425	0	115	5,978	1,233	9,947	6,051	1,405	2,849	2,882	3,615	3,694	2,856
2228	$\vee$	1,570	650	144	3,509	1,525	11,997	11,848	1,604	3,249	2,089	2,918	920	2,125
2229	$\cap$	6,064	1,022	3,981	12,483	4,967	7,551	9,037	4,238	6,519	8,792	8,580	3,426	4,079
222A	$\cup$	4,023	4,368	3,058	12,654	5,287	8,586	9,402	2,636	4,529	3,727	3,837	2,492	2,279
222B	$\int$	6,613	2,044	18,784	767	1,601	293	174	5,719	1,496	593	1,814	5,478	519
222C	$\iint$	57	0	0	0	12	4	0	40	4	10	11	38	22
222D	$\iiint$	4	0	0	0	0	0	0	1	0	0	0	0	1
222E	$\oint$	57	0	0	5	98	0	0	35	0	0	17	233	1
2234	$\therefore$	0	0	0	2	0	0	0	0	0	0	0	0	0
2235	$\because$	0	0	0	0	0	0	0	0	0	0	0	0	0
223C	$\sim$	1,426	2,509	807	1,838	1,759	3,092	2,191	1,569	1,733	869	1,822	1,350	1,388
223D	$\backsim$	5	0	0	0	2	12	0	4	0	0	0	0	0
2240	$\wr$	79	185	0	42	225	865	0	103	123	143	34	2	328
2241	$\nsim$	20	0	0	42	70	28	15	3	0	1	36	53	46
2243	$\simeq$	1,183	0	692	673	555	298	158	1,346	1,219	1,786	2,288	993	2,366
2244	$\nsimeq$	9	0	0	5	5	0	0	14	4	33	21	2	20
2245	$\cong$	2,611	557	807	1,403	966	3,032	1,175	2,250	3,027	4,980	4,683	1,029	6,592
2247	$\ncong$	23	0	0	107	31	16	63	9	34	42	38	0	60
2248	$\approx$	295	1,765	115	494	381	153	667	468	49	73	189	209	152
2249	$\napprox$	1	0	0	2	1	8	15	0	0	0	0	0	0
224A	$\approxeq$	3	0	0	0	0	64	0	0	0	0	2	0	9
224D	$\asymp$	1,693	4,925	3,173	2,122	2,180	1,256	5,066	4,534	1,590	827	1,304	1,190	1,052
224F	$\Bumpeq$	0	0	0	0	0	0	0	0	0	0	0	0	0
2250	$\doteq$	45	0	0	164	37	0	0	4	0	65	18	21	3
2251	$\doteqdot$	5	0	0	0	0	0	0	0	0	0	0	0	0
2252	$\fallingdotseq$	0	0	0	0	0	0	0	0	0	0	1	0	0
2257	$\risingdotseq$	1	0	0	62	0	0	0	0	0	0	0	0	0
225C	$\triangleq$	23	0	0	0	11	0	0	0	0	0	4	0	0
2260	$\neq$	4,659	7,063	6,867	6,885	4,998	5,710	5,908	4,626	7,324	6,690	5,237	5,121	5,456
2262	$\not\equiv$	95	0	28	93	171	124	270	351	143	48	90	131	33
2264	$\leq$	20,088	11,338	10,502	24,242	25,792	31,682	26,111	19,574	17,113	18,021	14,729	22,572	13,437
2265	$\geq$	10,820	5,855	5,770	8,252	15,179	10,072	8,116	11,963	10,806	14,666	12,093	9,967	8,105
2266	$\leqq$	19	0	0	0	0	0	0	37	0	10	19	12	6
2267	$\geqq$	15	0	0	0	8	0	0	27	0	22	16	19	14
2268	$\lneqq$	0	0	0	8	0	0	0	1	0	0	0	0	0
2269	$\gneqq$	0	0	0	0	0	0	0	0	0	0	0	0	0
226A	$\ll$	387	92	115	329	194	523	15	2,644	182	67	124	111	132
226B	$\gg$	218	0	28	142	114	44	63	424	429	1,042	365	51	233
226D	$\not\asymp$	0	0	0	0	0	0	0	0	0	0	0	0	0
226E	$\not<$	3	0	0	39	13	32	0	0	0	6	2	0	11
226F	$\not>$	1	0	0	5	9	20	0	0	0	7	2	0	10
2270	$\not\leq$	17	0	0	147	19	600	142	8	4	30	26	9	14
2271	$\not\geq$	10	0	0	17	6	157	0	0	0	39	20	2	14
2272	$\lesssim$	370	0	0	68	61	680	0	66	0	15	6	7	122
2273	$\gtrsim$	35	0	0	0	79	0	0	62	0	6	5	0	0
2276	$\lessgtr$	0	0	0	0	0	0	0	0	0	0	0	0	0

Ucode	Op	all	00	01	03	05	06	08	11	12	13	14	15	16
2277	≷	2	0	28	0	0	0	0	1	0	0	0	0	0
227A	≺	337	0	0	2,088	808	3,511	524	148	128	1,182	163	287	740
227B	≻	117	0	0	88	368	648	95	79	69	350	67	29	560
227C	≼	220	0	0	872	496	1,671	1,492	106	518	155	87	75	250
227D	≽	27	0	0	68	54	104	190	44	187	90	9	9	15
227E	≾	10	0	0	0	0	0	0	0	0	0	0	0	12
227F	≿	1	0	0	0	2	0	0	0	0	0	0	0	0
2280	⊀	1	0	0	0	9	12	0	3	0	0	1	0	2
2281	⊁	1	0	0	0	25	0	0	0	0	0	0	0	0
2282	⊂	7,021	1,115	9,464	5,552	2,907	4,297	3,430	4,938	8,796	7,578	11,217	3,339	4,317
2286	⊆	2,248	2,323	663	12,330	4,090	8,839	14,802	1,485	1,792	7,213	2,323	2,499	4,154
2289	⊉	4	0	0	2	5	12	79	1	0	39	3	0	1
228A	⊊	56	0	0	53	85	144	31	94	9	338	103	4	91
228B	⊋	7	0	0	14	6	36	47	8	0	25	10	0	2
228E	⊎	22	0	0	142	168	205	0	11	0	3	14	2	1
228F	⊏	5	0	0	267	0	0	0	0	0	11	1	0	1
2290	⊐	1	0	0	0	0	0	0	0	0	21	6	0	0
2291	⊑	17	0	0	809	103	140	555	1	0	0	0	0	0
2292	⊒	1	0	0	113	3	0	0	0	0	0	0	0	0
2293	⊓	50	0	0	215	57	28	0	1	0	105	10	0	130
2294	⊔	303	0	288	295	356	1,304	0	105	237	311	220	216	366
2295	⊕	4,329	2,137	1,962	1,994	2,048	9,029	6,226	3,062	5,477	6,905	6,870	3,441	8,303
2296	⊖	53	0	0	93	187	1,022	0	12	0	1	17	17	1
2297	⊗	14,242	1,208	1,240	2,131	6,558	8,529	3,017	8,863	23,242	17,837	16,621	9,163	58,064
2299	⊙	197	371	721	255	137	1,635	3,716	12	1,876	414	149	496	679
229B	⊛	35	0	0	34	19	0	0	0	0	20	7	31	353
229D	⊝	3	0	0	0	14	0	0	8	0	0	3	0	0
229E	⊞	31	0	0	147	68	100	0	100	0	0	14	260	9
229F	⊟	8	0	0	517	9	0	0	0	0	0	0	0	3
22A0	⊠	242	0	0	389	1	24	270	163	54	149	218	9	204
22A1	⊡	4	0	0	0	0	0	0	0	0	0	0	0	12
22A2	⊢	96	650	0	716	480	511	0	47	29	38	49	257	371
22A3	⊣	43	0	0	267	126	314	47	20	24	0	22	0	222
22A5	⊥	944	92	1,125	846	557	3,688	905	709	1,131	345	740	496	1,092
22A7	⊧	67	0	0	3,770	137	221	555	7	74	36	12	29	157
22A9	⊩	30	0	0	1,238	19	32	0	5	0	0	0	0	0
22AC	⊬	0	0	0	11	0	0	0	0	19	0	0	0	0
22AD	⊭	0	0	0	5	0	0	0	0	4	0	0	0	0
22B2	⊲	60	0	0	198	107	934	95	52	88	84	26	34	158
22B3	⊳	30	0	0	0	37	108	0	1	0	0	12	0	62
22B4	⊴	60	0	0	125	61	257	746	8	0	13	13	24	32
22B5	⊵	8	0	0	28	29	0	0	0	0	27	7	0	6
22B8	⊸	3	0	0	110	11	0	0	9	0	0	4	0	0
22BA	⊺	5	0	0	0	18	0	0	0	0	32	8	0	0
22BB	⊻	1	0	0	0	0	52	206	0	0	0	0	0	0
22BC	⊼	0	0	0	0	0	0	0	0	0	0	0	0	0
22C0	⋀	261	0	86	687	90	877	651	233	227	405	402	1,066	590
22C1	⋁	97	0	0	1,102	136	3,262	1,064	32	69	24	5	51	163
22C4	⋄	120	0	0	107	250	765	555	18	138	343	102	2	138
22C5	⋅	9,278	13,847	12,638	4,745	7,093	10,921	5,463	7,728	7,615	6,599	10,693	6,547	11,409
22C6	⋆	1,217	1,208	15,552	1,696	794	2,154	1,111	494	661	7,904	1,001	260	1,160
22C7	⋇	1	0	0	0	0	0	0	0	0	0	0	0	0
22C8	⋈	41	0	0	0	16	100	285	2	29	6	0	0	424
22C9	⋉	174	0	0	0	95	289	1,350	50	261	527	36	80	220
22CA	⋊	316	92	57	14	74	374	0	228	395	115	138	29	273
22CB	⋋	4	0	0	0	0	0	0	0	0	0	3	0	0
22CC	⋌	2	0	0	0	0	0	0	0	0	0	0	0	4
22CD	⋍	8	0	0	0	0	0	0	7	0	0	3	0	4
22CF	⋏	5	0	0	0	16	0	0	0	0	0	0	0	0
22D0	⋐	27	0	28	0	14	0	0	11	0	23	3	0	0
22D1	⋑	0	0	0	0	0	0	0	0	0	0	0	0	0
22D2	⋒	4	0	0	0	0	0	0	0	0	0	0	0	0
22D3	⋓	1	0	0	2	0	0	0	0	0	0	1	0	0
22D6	⋖	13	0	0	2	81	942	0	1	108	3	20	0	15

Ucode	Op	all	00	01	03	05	06	08	11	12	13	14	15	16
22D7	⋗	3	0	0	0	6	116	0	0	0	0	8	0	0
22D8	⋘	1	0	0	0	0	0	0	0	0	0	0	7	0
22D9	⋙	0	0	0	0	0	0	0	0	0	0	0	7	0
22DB	⋛	0	0	0	0	0	0	0	0	0	0	0	0	0
22DF	⋟	0	0	0	0	0	0	0	0	0	0	0	0	0
22E0	⋠	1	0	0	0	12	12	0	0	0	1	0	0	1
22E1	⋡	0	0	0	0	1	0	0	0	0	5	1	0	0
22E2	⋢	0	0	0	2	0	0	0	0	0	0	0	0	0
22E6	⋦	0	0	0	0	0	8	0	0	0	0	0	0	0
22E8	⋨	0	0	0	0	0	0	0	0	0	0	0	0	3
22E9	⋩	0	0	0	0	0	0	0	0	0	0	0	0	0
22EB	⋫	0	0	0	0	0	0	0	0	0	0	0	0	0
22EC	⋬	0	0	0	0	0	28	111	0	0	0	0	0	0
22ED	⋭	0	0	0	0	0	0	0	0	0	0	0	0	0
22EE	⋮	370	1,394	57	181	430	330	63	375	528	917	472	1,455	419
22EF	⋯	12,005	15,706	15,148	9,781	21,483	15,911	8,910	12,358	12,885	19,447	13,312	26,306	15,213
22F1	⋱	116	278	0	39	188	116	0	154	182	165	92	567	135
2308	⌈	122	0	0	82	394	120	333	147	34	452	238	90	26
2309	⌉	122	0	0	99	393	112	333	147	34	452	237	82	26
230A	⌊	222	0	0	147	1,105	604	730	453	296	482	216	153	147
230B	⌋	229	0	0	139	1,036	898	1,270	454	296	367	219	270	173
2310	⌐	8	0	0	625	0	60	15	0	69	0	0	31	0
231C	⌜	29	0	0	576	0	0	0	0	0	10	22	0	17
231D	⌝	26	0	0	568	7	0	0	0	0	10	22	0	22
231E	⌞	12	0	0	11	17	0	0	0	0	6	24	0	15
231F	⌟	74	0	0	11	0	0	0	0	0	6	31	0	14
2322	⌢	46	0	0	1,815	32	16	0	0	0	0	5	0	4
2323	⌣	49	0	0	179	63	0	0	1	0	1	9	0	140
2329	〈	4,450	2,509	2,510	7,348	3,253	7,051	19,281	2,530	3,402	3,096	3,131	2,867	6,021
232A	〉	4,584	2,509	2,510	7,072	3,221	6,705	19,281	2,536	3,417	3,103	3,172	2,988	6,125
23D4	⏃	14	0	0	0	0	0	0	0	0	9	2	0	0
25A0	■	134	0	86	133	80	104	0	99	49	25	81	172	306
25A1	■	564	743	432	923	477	229	0	667	370	535	543	849	962
25AA	□	8	0	0	0	104	0	0	0	0	0	61	0	0
25AB	□	787	0	663	1,324	1,534	2,061	397	652	839	769	609	1,460	1,554
25B2	▲	7	0	0	0	6	0	0	2	0	53	0	133	0
25B3	△	295	0	432	389	208	885	15	180	103	110	122	133	190
25B6	▶	20	0	0	0	12	563	0	0	0	2	2	0	244
25BB	▷	184	0	0	51	100	128	0	58	172	16	15	133	1,806
25BC	▼	2	0	0	0	0	0	0	0	0	50	0	133	0
25BD	▽	43	0	0	45	58	338	31	31	0	39	21	299	52
25C0	◀	10	0	0	0	0	0	0	1	0	0	0	0	59
25C5	◁	173	0	115	179	83	112	174	113	167	143	60	55	997
25CA	◊	44	0	0	468	90	116	0	4	0	176	22	0	8
25EF	◯	97	0	86	17	351	0	0	271	0	0	23	0	252
2605	★	19	0	0	443	72	0	0	4	0	58	11	0	6
2660	♠	19	0	0	0	16	0	0	11	0	0	4	0	0
2663	♣	15	0	0	25	25	0	0	6	0	6	24	4	1
2665	♡	14	0	0	0	23	0	0	5	0	2	29	0	0
2666	♢	62	0	0	45	247	157	0	29	0	30	26	7	68
266D	♭	176	0	0	187	164	52	47	98	0	313	170	209	185
266E	♮	133	0	0	127	103	136	397	41	138	401	259	82	236
266F	♯	533	0	0	252	332	660	921	356	350	1,154	659	954	396
2A0C	⨌	1	0	0	0	0	0	0	0	0	0	0	0	3
2A7D	⩽	752	5,111	173	576	1,338	720	333	1,258	582	828	458	1,097	364
2A7E	⩾	365	4,275	865	110	702	261	301	649	1,200	547	323	172	186
2A85	⪅	12	0	0	0	87	0	0	13	0	0	0	0	0
2A86	⪆	8	0	0	0	73	0	0	3	0	0	0	2	0
2A87	⪇	3	0	0	0	8	0	0	0	0	37	6	0	6
2A88	⪈	0	0	0	5	0	0	0	0	0	2	1	0	1
2A8B	⪋	0	0	0	0	0	0	0	0	0	0	0	0	0

Ucode	Op	all	00	01	03	05	06	08	11	12	13	14	15	16
2A8C	⩽⩽=	0	0	0	0	0	0	0	0	0	0	0	0	0
2A95	⩽⩽	0	0	0	0	0	16	0	0	0	0	0	0	0
2A96	⩾⩾	0	0	0	0	0	0	0	0	0	0	0	0	0
2AC5	⊆⊆	0	0	0	0	1	0	0	0	0	7	0	0	5
2AC6	⊇⊇	0	0	0	0	0	0	0	1	0	0	0	0	0
2ACB	⫋	9	0	0	25	4	0	206	4	0	23	10	7	7
2ACC	⫌	3	0	0	42	1	0	476	3	4	0	5	2	4
FE37	⏜	34	185	57	17	52	16	0	13	0	23	34	9	13
FE38	⏝	158	371	577	110	238	100	95	184	88	125	149	287	207

Ucode	Op	17	18	19	20	22	26	28	30	31	32	33	34	35
0021	!	2,129	4,873	3,135	2,262	1,709	1,761	788	2,441	1,437	2,233	5,937	1,602	1,338
0022	“	2,323	7,935	2,354	6,113	4,837	2,816	2,037	3,289	4,626	5,052	1,472	3,648	2,767
0023	#	1,300	1,555	592	1,835	1,080	441	3,830	497	418	773	360	1,136	423
0024	$	0	9	0	27	0	0	0	16	0	0	0	0	0
0025	%	1	128	39	7	0	19	43	0	0	0	2	0	9
0026	&	32	98	2	105	12	3	269	20	0	21	43	11	12
002A	*	28,920	50,890	53,707	26,608	36,457	10,063	17,230	15,448	15,090	26,658	12,054	11,672	14,470
002B	+	93,691	50,153	65,169	74,629	63,525	71,936	57,117	83,719	69,468	75,387	129,370	107,580	97,579
002C	,	133,348	91,224	94,512	115,943	109,140	128,400	103,564	100,650	104,433	109,935	143,504	123,656	111,176
002D	−	127,670	86,843	103,692	118,385	96,020	123,314	97,296	127,173	119,515	107,996	191,206	145,443	138,603
002E	.	1,216	906	514	1,457	1,734	361	778	1,108	78	908	1,155	5,565	3,375
002F	/	12,148	17,681	24,873	22,564	21,370	19,333	23,271	24,461	18,514	17,394	44,654	21,782	25,985
003A	:	762	6,289	7,135	2,274	2,459	2,219	1,619	1,442	1,115	1,705	130	506	393
003C	<	7,574	9,995	8,287	11,088	7,603	15,279	18,527	15,557	20,092	10,557	10,828	14,165	16,453
003D	=	137,415	108,669	109,807	138,216	128,827	122,120	124,355	132,694	115,359	132,302	127,750	140,364	103,376
003E	>	8,358	23,650	19,678	11,699	8,689	13,487	17,965	13,303	16,232	12,361	7,430	12,783	15,256
005C	\	442	389	855	1,258	2,598	451	1,864	1,338	209	1,808	463	657	792
007C	|	24	37	195	96	127	6	134	0	0	249	5	17	173
00A3	£	65	0	23	0	10	0	0	0	0	0	18	0	0
00A7	§	128	41	4	97	56	36	38	82	8	90	11	133	72
00A9	©	0	0	0	0	0	0	0	0	0	0	0	1	0
00AC	≠	1	58	0	10	8	26	19	27	0	5	0	15	0
00AF	¯	13,016	11,662	13,690	12,730	14,149	8,593	12,592	13,458	13,339	17,882	3,958	7,033	9,718
00B1	±	5,289	1,426	1,981	3,944	2,881	1,284	1,345	3,174	583	2,082	3,708	5,101	4,556
00B6	¶	199	249	13	18	20	0	0	140	0	109	0	0	0
00D7	×	6,087	21,580	17,215	10,027	13,670	4,303	11,078	6,701	6,229	13,164	5,447	6,750	8,104
00F7	÷	5	0	47	0	0	3	9	0	0	2	6	1	7
0127	ħ	1,158	173	410	548	347	0	0	122	374	499	82	381	292
0131	ı	7	0	10	2	0	6	0	18	8	58	4	131	227
0141	Ł	0	279	0	0	4	0	0	32	0	14	0	73	43
0142	ł	18	49	65	31	25	33	0	20	8	347	415	90	44
0152	Œ	0	0	0	0	45	0	0	0	0	31	0	0	0
02B9	′	26	91	17	119	4	0	0	16	26	22	1	13	42
02C6	ˆ	11,128	7,788	11,414	9,748	13,554	3,911	7,709	10,183	10,455	11,882	3,697	9,849	8,170
02C7	ˇ	1,598	983	392	600	952	374	134	568	1,995	411	273	698	177
02C9	¯	8,520	7,209	7,467	7,446	6,523	7,326	5,503	9,622	6,369	12,114	2,754	3,324	9,349
02CB	`	2	2	45	17	0	0	0	12	34	4	1	1	4
02D8	˘	74	0	88	148	53	0	48	168	0	13	179	150	100
02DA	°	0	11	0	21	0	0	0	0	0	0	0	0	39
02DC	˜	19,428	15,707	16,640	17,964	20,191	9,293	12,649	17,302	11,675	22,869	15,149	22,876	19,545
2011	−−	123	249	2	0	0	0	0	0	0	0	1	0	0
2016	‖	22	71	1,058	125	411	4,087	124	0	0	273	0	0	329
2020	†	779	552	340	224	210	9	9	1,327	26	961	568	184	242
2021	‡	53	26	17	10	14	6	9	3	0	19	1,077	11	4
2026	…	9,548	5,752	5,108	11,882	7,923	3,865	12,880	6,336	3,023	6,480	6,465	5,903	2,397
2032	′	2,551	3,101	3,689	3,515	5,935	8,185	2,763	6,010	165	4,868	4,787	4,747	2,328
2035	‵	0	0	0	0	190	0	0	0	0	0	0	0	0
2061		90,757	100,210	93,762	100,938	117,839	118,583	119,434	131,096	124,952	94,881	81,762	116,528	103,527
20D7	→	931	330	10	558	195	434	2,215	3,765	2,082	1,442	2,647	1,027	1,965
2102	ℂ	1,573	182	375	227	2,510	215	716	896	731	3,873	326	475	128
210D	ℍ	58	0	106	50	362	0	0	138	0	105	4	0	10
210F	ℏ	0	0	0	0	19	0	0	0	0	0	0	0	0
2111	ℑ	25	5	10	61	68	19	523	660	871	146	155	118	268
2113	ℓ	6,328	2,563	4,394	7,913	7,080	5,759	10,977	7,054	4,887	5,811	7,326	4,999	6,074
2115	ℕ	112	55	312	129	404	189	471	21	0	387	27	219	190
2118	℘	164	205	49	206	166	0	163	678	540	390	786	671	42
2119	ℙ	101	9	173	23	87	0	62	248	104	846	148	167	14
211A	ℚ	108	176	444	208	679	33	24	49	0	558	61	25	0
211C	ℜ	15	38	17	59	525	318	43	652	365	176	443	217	322
211D	ℝ	731	270	555	294	1,755	1,529	1,091	230	784	1,616	118	1,513	1,173
2124	ℤ	1,012	611	1,395	1,230	1,621	29	557	190	8	748	432	325	126
2127	℧	13	0	17	6	0	0	0	0	0	0	0	0	0
2135	ℵ	33	47	128	110	176	872	139	484	0	213	0	34	55
2136	ℶ	0	0	0	7	12	0	0	0	0	0	0	0	0

Ucode	Op	17	18	19	20	22	26	28	30	31	32	33	34	35
2137	ℷ	0	0	0	15	0	0	0	0	0	2	0	0	2
2138	ℸ	0	102	0	47	0	0	0	0	0	0	0	0	0
2190	←	335	1,213	1,169	531	307	19	221	69	0	202	129	166	129
2191	↑	406	566	438	157	77	222	230	73	243	98	87	73	83
2192	→	12,778	58,245	55,514	21,864	23,547	13,935	21,627	16,819	16,911	24,520	8,513	14,865	14,381
2193	↓	454	1,153	1,315	355	247	308	273	160	87	307	183	282	207
2194	↔	96	43	10	81	29	0	24	25	0	11	26	8	4
2196	↖	291	645	4	8	5	0	14	10	0	8	0	0	0
2197	↗	290	622	13	58	10	89	81	181	174	58	34	46	36
2198	↘	312	761	13	33	35	86	76	177	191	51	30	32	46
2199	↙	251	499	13	20	28	0	9	14	0	28	2	10	4
219B	↛	0	0	0	0	0	6	0	0	0	2	0	1	3
219E	↞	2	4	0	0	0	0	0	0	0	0	0	0	0
21A0	↠	154	429	651	180	60	0	0	0	0	28	6	0	4
21A2	↢	26	0	0	24	0	0	0	0	0	0	0	0	0
21A3	↣	91	270	316	92	6	0	0	0	0	0	0	0	0
21A6	↦	2,366	4,916	4,533	2,962	4,073	1,615	2,907	2,265	1,585	2,688	2,064	1,872	1,319
21A9	↩	31	14	32	18	41	0	105	0	0	12	0	11	2
21AA	↪	436	962	694	546	714	102	187	224	87	622	22	143	452
21AB	↫	0	0	0	0	0	0	0	0	0	0	0	0	0
21AC	↬	0	0	0	0	0	0	0	0	0	2	0	0	0
21AD	↭	4	1	0	3	0	0	0	0	0	0	0	0	0
21AE	↮	0	0	0	0	0	0	0	0	0	0	0	0	0
21B0	↰	0	0	0	0	9	0	48	0	0	0	0	0	0
21B1	↱	0	0	0	0	11	0	48	0	0	0	0	0	0
21B6	↶	19	89	6	34	0	0	0	31	0	13	0	0	0
21B7	↷	13	83	136	285	14	0	0	109	0	14	8	3	0
21BA	↺	17	13	0	8	0	0	14	91	0	73	0	0	0
21BB	↻	14	10	0	2	0	0	0	0	0	10	0	0	0
21BC	↼	15	126	0	253	3	0	0	0	0	0	0	0	0
21BD	↽	0	1	0	0	0	0	0	0	0	0	0	0	0
21BE	↾	29	56	0	23	14	209	33	29	0	42	0	0	18
21BF	↿	0	0	0	0	0	0	0	0	0	2	0	0	0
21C0	⇀	51	204	0	325	0	3	0	67	191	16	0	80	266
21C1	⇁	3	15	0	11	0	0	0	0	0	0	0	0	6
21C4	⇄	0	128	8	3	0	0	0	0	0	2	0	0	0
21C5	⇅	2	3	0	11	0	0	0	0	0	1	0	0	0
21C6	⇆	153	182	39	225	117	23	52	120	26	60	101	87	16
21C7	⇇	0	0	0	0	0	0	0	0	0	0	0	0	0
21C9	⇉	103	129	41	18	289	33	0	36	0	0	1	0	0
21CA	⇊	0	2	0	0	13	0	0	0	0	0	0	0	0
21CB	⇋	0	0	0	0	0	0	0	0	0	0	0	0	0
21CC	⇌	1	8	0	5	1	3	4	7	0	4	2	0	0
21CE	⇎	0	0	0	0	0	0	0	0	0	0	0	0	0
21CF	⇏	1	0	0	0	0	0	0	0	0	0	0	0	0
21D0	⇐	18	130	8	34	38	56	67	9	26	14	0	10	2
21D1	⇑	0	10	4	2	0	0	0	0	0	0	0	0	0
21D2	⇒	403	1,720	785	666	807	716	1,240	405	653	521	257	378	300
21D3	⇓	96	39	0	8	8	0	0	0	0	5	129	10	4
21D4	⇔	249	488	269	410	338	361	672	166	304	253	129	265	134
21D5	⇕	0	0	0	0	0	0	0	0	0	2	0	0	0
21DA	⇐	0	0	0	0	1	0	0	0	0	0	0	0	0
21DD	⇝	37	56	8	28	29	3	0	0	52	22	45	54	22
21E0	⇠	0	0	0	0	0	0	0	0	0	0	0	0	0
21E2	⇢	18	107	67	6	14	0	38	0	0	87	0	42	0
2200	∀	864	786	648	727	1,566	1,818	3,503	839	1,411	968	524	1,438	1,719
2201	∁	0	0	0	3	0	0	43	0	0	10	0	0	40
2202	∂	8,217	7,787	9,112	5,610	9,508	7,262	3,695	19,271	30,512	23,143	5,721	15,110	28,815
2203	∃	79	292	86	205	169	437	1,033	179	78	136	38	239	352
2204	∄	0	0	0	0	0	6	0	0	0	0	0	0	0
2205	∅	619	1,134	572	1,136	1,192	998	2,268	1,212	940	1,179	223	424	657
2207	∇	1,933	2,117	2,964	810	1,641	3,682	163	2,327	14,472	3,687	717	3,477	15,387
2208	∈	44,390	39,454	43,130	52,067	65,669	56,783	72,626	41,582	50,944	42,819	23,483	36,954	38,370
2209	∉	775	417	677	1,359	812	822	1,249	859	487	907	757	642	554

Ucode	Op	17	18	19	20	22	26	28	30	31	32	33	34	35
220B	$\ni$	123	149	78	90	297	172	350	299	958	377	79	178	150
220F	$\prod$	2,005	1,872	2,838	3,025	2,422	1,343	2,105	2,128	1,254	1,877	9,229	1,278	1,018
2210	$\coprod$	357	1,833	1,019	338	241	29	4	84	0	265	27	34	7
2211	$\sum$	14,357	6,861	8,040	9,881	9,730	32,525	14,245	12,851	10,987	11,734	20,201	10,950	12,394
2214	$\dotplus$	18	0	23	11	10	0	0	0	0	14	0	18	0
2216	$\setminus$	1,017	1,068	1,729	2,330	2,174	2,873	2,528	5,549	9,941	4,696	1,034	1,806	3,239
2218	$\circ$	7,246	22,726	7,395	5,905	9,076	3,925	9,828	5,048	2,274	8,726	1,781	2,294	1,802
2219	$\bullet$	2,537	10,589	4,824	2,872	1,907	1,831	187	281	235	5,143	599	943	851
221A	$\surd$	0	0	36	0	0	13	0	7	0	0	0	0	7
221D	$\propto$	4	0	32	7	6	0	0	7	52	6	16	29	17
221E	∞	5,133	7,903	15,303	7,127	12,075	21,520	22,771	25,216	26,652	12,747	19,647	18,865	23,460
2220	$\angle$	0	9	82	174	17	0	38	117	0	3	5	3	66
2221	$\measuredangle$	0	0	0	8	14	0	0	60	0	1	0	1	0
2222	$\sphericalangle$	0	0	0	0	0	0	0	0	0	0	0	0	0
2223	$\mid$	9,248	7,839	6,171	8,799	10,095	6,552	7,718	7,268	7,231	8,991	5,055	6,074	6,379
2224	$\nmid$	1	7	36	104	6	13	43	7	0	11	15	25	0
2225	$\parallel$	261	216	416	414	425	597	240	694	1,550	293	496	457	1,695
2226	$\nparallel$	0	0	0	0	0	0	0	12	0	0	0	0	4
2227	$\wedge$	4,576	4,767	4,268	1,577	3,949	1,781	1,355	2,048	3,398	8,344	1,234	2,639	2,283
2228	$\vee$	2,696	4,434	1,443	1,958	2,681	1,390	1,783	215	348	993	1,123	957	443
2229	$\cap$	2,777	3,408	3,973	7,368	8,793	4,515	11,919	5,474	7,153	9,689	1,030	3,083	3,728
222A	$\cup$	1,919	3,024	3,298	6,082	3,507	3,045	7,166	4,556	4,251	4,654	1,315	1,886	1,817
222B	$\int$	590	622	3,137	948	5,460	19,234	7,084	10,940	23,629	4,744	5,354	10,594	23,196
222C	$\iint$	11	5	0	1	56	99	173	1,210	121	407	43	35	104
222D	$\iiint$	0	0	0	0	0	0	0	124	26	8	4	0	2
222E	$\oint$	53	0	15	6	9	39	4	416	87	136	166	227	93
2234	$\therefore$	0	1	0	0	0	0	0	0	0	0	0	0	0
2235	$\because$	0	0	0	0	0	0	0	0	0	0	0	0	0
223C	$\sim$	609	2,550	2,089	1,575	1,076	809	1,643	850	1,062	810	482	1,099	2,113
223D	$\backsim$	8	1	0	1	0	0	0	0	0	2	0	0	10
2240	$\wr$	44	101	661	571	46	0	48	0	182	4	13	6	0
2241	$\nsim$	15	4	8	77	8	0	4	1	0	4	0	1	23
2243	$\simeq$	1,142	3,136	2,534	1,263	1,605	129	379	612	514	1,552	198	350	343
2244	$\not\simeq$	6	22	2	6	16	0	24	0	0	2	0	0	0
2245	$\cong$	2,544	8,910	7,998	3,312	3,564	132	793	592	121	2,190	332	451	212
2247	$\ncong$	17	40	80	29	20	0	14	1	0	5	0	0	0
2248	$\approx$	76	287	262	338	309	633	2,316	362	435	200	212	124	253
2249	$\not\approx$	0	0	0	9	8	0	4	0	0	0	0	0	0
224A	$\approxeq$	0	0	0	0	0	0	0	0	0	2	0	0	0
224D	$\asymp$	1,286	997	1,289	2,270	842	1,171	1,470	1,700	1,742	1,770	1,312	1,749	1,769
224F	$\Bumpeq$	0	0	0	3	0	0	0	0	0	0	0	0	0
2250	$\doteq$	13	14	0	98	4	0	0	1	0	6	1	253	60
2251	$\doteqdot$	0	0	0	0	0	0	0	0	0	0	0	0	10
2252	$\fallingdotseq$	0	0	0	0	0	0	0	0	0	4	0	0	0
2257	$\risingdotseq$	0	0	0	4	0	0	0	0	0	0	0	0	0
225C	$\triangleq$	80	0	0	2	0	0	0	0	0	0	30	0	0
2260	$\neq$	5,990	2,917	2,968	6,125	4,633	4,167	4,142	4,672	2,770	5,302	3,192	6,132	2,843
2262	$\not\equiv$	62	22	56	112	35	89	14	171	200	250	83	130	154
2264	$\leq$	15,734	9,285	12,510	18,271	12,309	45,717	30,663	21,782	32,394	17,357	16,331	18,019	34,575
2265	$\geq$	7,740	7,812	8,658	10,236	5,926	14,791	17,283	11,679	14,794	9,686	7,556	7,168	11,531
2266	$\leqq$	2	2	117	0	3	0	0	0	0	36	2	0	0
2267	$\geqq$	8	0	91	0	10	0	0	0	0	40	20	0	0
2268	$\lneqq$	4	3	0	0	5	0	0	0	0	0	0	0	0
2269	$\gneqq$	0	0	0	1	1	0	0	0	0	0	0	0	1
226A	$\ll$	53	116	62	173	130	258	495	160	69	135	18	152	488
226B	$\gg$	171	408	184	109	130	126	144	60	130	197	80	107	308
226D	$\not\asymp$	0	0	0	0	0	0	0	0	0	0	0	0	0
226E	$\not<$	6	0	8	9	2	0	4	0	0	0	0	0	0
226F	$\not>$	2	1	0	1	0	0	0	0	0	0	0	0	0
2270	$\not\leq$	7	20	28	64	5	76	0	0	0	10	0	1	12
2271	$\not\geq$	12	0	8	30	1	0	0	0	0	15	0	0	2
2272	$\lesssim$	19	22	106	28	94	9	245	449	418	125	4	3	3,635
2273	$\gtrsim$	0	0	2	8	12	16	91	65	69	22	0	3	312
2276	$\lessgtr$	0	0	0	0	0	0	0	0	0	0	0	0	0

Ucode	Op	17	18	19	20	22	26	28	30	31	32	33	34	35
2277	≷	2	0	0	0	0	0	14	3	0	0	0	0	7
227A	≺	1,051	1,779	151	672	336	487	485	248	95	142	152	39	29
227B	≻	866	1,545	15	156	50	0	43	12	0	28	44	17	132
227C	≼	232	21	41	433	198	550	586	482	139	31	197	47	33
227D	≽	15	9	62	56	28	63	120	9	8	2	22	8	0
227E	≾	2	0	84	26	0	0	48	0	0	0	0	0	18
227F	≿	0	0	4	4	0	0	4	0	0	0	0	0	0
2280	⊀	0	3	4	1	2	0	0	0	0	0	0	0	0
2281	⊁	0	0	0	0	0	0	0	0	0	0	0	0	0
2282	⊂	3,679	5,285	7,261	6,300	9,840	4,631	9,828	6,579	9,052	11,184	1,316	4,307	4,130
2286	⊆	1,768	2,598	3,263	3,808	3,789	4,578	4,724	874	1,089	1,327	531	357	822
2289	⊊	4	1	2	5	0	0	0	0	0	0	0	0	0
228A	⊋	14	31	28	55	53	29	14	51	17	41	1	18	19
228B	⊌	7	2	0	3	6	3	0	9	0	12	0	3	1
228E	⊎	2	38	0	36	29	0	19	0	0	23	0	0	0
228F	⊏	0	22	0	15	0	23	33	0	0	2	0	0	0
2290	⊐	0	4	0	1	0	0	0	0	0	0	0	0	0
2291	⊑	8	32	0	18	0	0	0	0	0	0	0	0	0
2292	⊒	0	2	0	1	0	0	0	0	0	0	0	0	0
2293	⊓	26	196	0	9	9	0	0	0	0	27	0	126	144
2294	⊔	267	683	247	337	237	89	67	347	0	325	9	133	152
2295	⊕	6,961	7,530	11,069	3,712	5,850	1,453	1,903	1,395	975	4,171	934	1,842	1,067
2296	⊖	5	45	26	25	51	16	1,326	424	26	22	59	22	13
2297	⊗	29,024	46,695	29,562	10,665	17,385	1,828	3,695	2,673	6,691	8,077	4,413	3,374	1,708
2299	⊙	135	222	503	172	610	285	403	312	296	123	166	17	39
229B	⊛	111	45	47	51	9	0	57	0	0	0	0	0	4
229D	⊝	0	0	0	3	0	282	0	0	0	0	0	0	0
229E	⊞	20	0	30	4	33	0	9	0	0	20	0	0	8
229F	⊟	0	32	0	7	0	0	0	0	0	0	0	0	0
22A0	⊠	210	1,181	136	125	252	3	105	3	0	28	5	0	26
22A1	⊡	0	47	0	3	17	0	0	0	0	0	0	0	0
22A2	⊢	411	593	0	326	0	16	0	5	0	39	88	0	0
22A3	⊣	324	508	2	106	3	0	0	0	0	0	0	0	0
22A5	⊥	1,009	817	436	525	805	205	970	592	1,219	714	301	640	673
22A7	⊧	62	13	0	94	0	155	283	12	0	0	0	0	0
22A9	⊩	0	10	0	0	0	106	139	0	0	0	0	0	0
22AC	⊬	0	0	0	0	0	0	0	0	0	0	0	0	0
22AD	⊭	0	0	0	0	0	0	0	0	0	0	0	0	0
22B2	◁	24	75	97	165	88	0	81	0	0	18	11	3	0
22B3	▷	4	33	36	74	55	0	0	14	0	2	20	0	3
22B4	⊴	20	61	0	78	11	0	62	0	0	0	12	1	0
22B5	⊵	18	0	0	33	0	0	0	0	0	0	0	0	0
22B8	⊸	0	0	0	0	0	0	0	0	0	0	0	0	0
22BA	⊺	0	0	2	18	0	0	0	0	0	23	0	0	20
22BB	⊻	0	0	0	0	0	0	0	0	0	0	0	0	0
22BC	⊼	0	0	0	0	0	0	0	0	0	0	0	0	0
22C0	⋀	585	267	188	340	94	6	91	73	0	418	30	17	70
22C1	⋁	11	508	54	88	110	136	187	5	0	45	34	17	0
22C4	⋄	223	377	39	110	173	92	216	25	0	118	41	23	3
22C5	⋅	8,820	10,863	8,352	9,203	8,300	10,521	9,756	6,736	8,791	11,155	5,316	7,671	12,669
22C6	⋆	1,666	1,883	1,412	639	404	222	538	241	1,158	1,219	360	1,549	846
22C7	⋇	0	2	0	0	5	0	0	0	0	0	0	0	0
22C8	⋈	176	215	0	128	73	0	0	0	0	0	6	0	0
22C9	⋉	249	482	1,393	333	707	0	139	12	0	32	44	13	6
22CA	⋊	170	699	1,651	571	1,478	0	1,355	34	0	50	33	29	1
22CB	⋋	6	0	0	41	7	0	0	0	0	2	0	0	0
22CC	⋌	4	0	0	0	0	0	0	0	0	0	0	0	0
22CD	⋍	1	19	4	1	1	0	9	0	0	0	0	0	0
22CF	⋏	0	0	0	16	0	0	52	0	270	0	0	0	0
22D0	⋐	0	0	0	14	0	0	0	142	784	123	0	80	112
22D1	⋑	0	0	0	1	0	0	0	0	0	0	0	0	1
22D2	⋒	0	0	0	2	0	341	0	0	0	0	0	0	0
22D3	⋓	0	4	0	3	0	0	0	9	0	0	0	0	0
22D6	⋖	0	0	49	0	15	0	0	0	0	0	0	0	0

Ucode	Op	17	18	19	20	22	26	28	30	31	32	33	34	35
22D7	$\gtrdot$	0	0	84	0	38	0	0	0	0	0	0	0	0
22D8	$\ggg$	0	0	0	0	0	0	0	0	0	0	0	0	0
22D9	$\lll$	0	0	0	0	0	0	0	0	0	0	0	0	0
22DB	$\eqslantgtr$	0	0	0	0	0	0	0	0	0	0	0	1	0
22DF	$\eqslantless$	0	0	0	0	0	0	0	0	0	0	0	0	0
22E0	$\not\preccurlyeq$	1	0	0	7	5	3	0	0	0	0	0	0	0
22E1	$\not\succcurlyeq$	0	0	0	0	0	0	0	0	0	0	0	0	0
22E2	$\not\sqsubseteq$	0	0	0	0	0	0	0	0	0	0	0	0	0
22E6	$\lneqq$	0	0	4	1	0	0	0	0	0	0	0	0	0
22E8	$\precnsim$	0	0	0	3	0	0	0	0	0	0	0	0	0
22E9	$\gnsim$	0	0	0	1	0	0	0	0	0	0	0	0	0
22EB	$\ntriangleleft$	0	0	0	2	0	0	0	0	0	0	0	0	0
22EC	$\not\trianglelefteq$	0	8	0	0	0	0	0	0	0	0	0	0	0
22ED	$\not\trianglerighteq$	0	0	0	0	0	0	0	0	0	0	0	0	0
22EE	$\vdots$	567	215	553	374	144	46	749	850	113	372	467	376	143
22EF	$\cdots$	15,140	10,124	16,197	15,785	8,154	12,448	10,857	8,550	7,284	11,633	15,949	10,789	4,153
22F1	$\ddots$	156	33	73	123	53	23	120	254	26	61	94	111	49
2308	$\lceil$	50	306	6	136	52	86	14	31	0	71	109	44	29
2309	$\rceil$	27	306	6	136	52	86	14	25	0	68	109	44	58
230A	$\lfloor$	254	59	0	235	37	159	403	27	8	76	368	157	14
230B	$\rfloor$	268	59	6	235	37	159	307	25	17	92	362	155	18
2310	$\neg$	0	3	0	2	0	0	0	0	0	0	0	0	0
231C	$\ulcorner$	0	193	143	58	0	0	0	0	0	0	0	0	0
231D	$\urcorner$	0	116	0	23	0	0	0	0	0	0	0	0	0
231E	$\llcorner$	0	80	58	16	26	0	0	0	0	28	0	0	0
231F	$\lrcorner$	5	160	95	54	26	0	0	0	0	122	0	1	4
2322	$\frown$	43	0	0	5	5	59	86	0	0	5	0	3	1
2323	$\smile$	34	514	13	5	20	0	0	0	0	30	0	42	0
2329	$\langle$	5,837	4,995	4,817	6,975	5,785	2,790	3,715	2,494	2,805	2,660	2,611	2,259	5,559
232A	$\rangle$	6,426	4,816	4,860	7,163	5,979	2,780	3,710	2,492	2,796	2,666	2,722	2,275	5,583
23D4	$\pitchfork$	0	0	0	15	17	0	0	51	0	26	0	0	0
25A0	$\blacksquare$	46	243	119	159	116	175	389	146	95	18	19	119	26
25A1	$\blacksquare$	780	1,288	536	898	925	106	408	407	69	743	390	287	633
25AA	$\square$	0	0	164	0	0	0	0	0	0	0	0	0	0
25AB	$\square$	804	1,723	529	597	669	836	446	581	548	816	456	405	939
25B2	$\blacktriangle$	0	0	0	0	15	0	0	0	0	16	0	0	0
25B3	$\triangle$	148	203	301	120	147	501	783	413	958	418	41	410	446
25B6	$\blacktriangleright$	80	0	0	3	0	0	96	0	0	17	0	6	0
25BB	$\triangleright$	663	1,007	6	311	272	13	115	0	0	8	4	6	0
25BC	$\blacktriangledown$	0	0	0	0	0	0	0	38	0	19	0	0	0
25BD	$\triangledown$	8	29	0	68	18	656	14	0	8	58	16	0	66
25C0	$\blacktriangleleft$	89	19	0	6	2	0	96	0	0	0	0	3	0
25C5	$\triangleleft$	495	1,301	82	469	161	0	43	0	0	4	4	8	0
25CA	$\lozenge$	15	14	13	43	23	66	0	0	0	32	0	0	1
25EF	$\bigcirc$	164	143	65	724	4	0	0	51	0	62	15	0	23
2605	$\bigstar$	5	82	6	7	11	13	9	7	0	0	0	10	0
2660	$\spadesuit$	11	5	30	26	0	0	0	12	0	10	0	0	0
2663	$\clubsuit$	3	1	0	12	0	0	0	14	17	36	0	0	9
2665	$\heartsuit$	1	0	0	0	0	0	0	131	0	4	0	0	0
2666	$\diamondsuit$	23	39	17	71	41	76	38	166	792	8	25	255	81
266D	$\flat$	141	396	58	47	37	162	336	98	609	107	68	320	356
266E	$\natural$	254	162	151	62	428	23	43	67	0	85	34	193	3
266F	$\sharp$	497	740	264	382	425	129	9	327	182	361	25	481	456
2A0C	$\iiiint$	0	0	0	0	0	0	0	1	0	0	0	0	1
2A7D	$\leqslant$	926	555	297	2,007	1,106	995	1,014	524	1,324	929	293	972	1,200
2A7E	$\geqslant$	254	408	188	990	306	232	456	418	278	411	166	258	289
2A85	$\lessapprox$	0	0	0	0	0	0	773	0	0	0	1	0	25
2A86	$\gtrapprox$	0	0	0	0	0	0	519	0	0	0	1	0	8
2A87	$\lneq$	5	0	0	5	4	0	0	0	0	13	0	0	0
2A88	$\gneq$	1	0	0	2	2	0	0	0	0	0	0	0	0
2A8B	$\lesseqgtr$	0	0	0	0	0	0	0	0	0	0	0	0	0

Ucode	Op	17	18	19	20	22	26	28	30	31	32	33	34	35
2A8C	$\leq\leq\vee$	0	0	0	0	0	0	0	0	0	0	0	0	0
2A95	$\leqslant\vee$	0	0	0	0	0	0	0	0	0	0	0	0	0
2A96	$\geqslant\vee$	0	0	0	0	0	0	0	0	0	0	0	0	0
2AC5	$\subseteq\cup$	0	0	0	0	0	0	0	0	0	0	0	0	0
2AC6	$\supseteq\cup$	0	0	0	0	0	0	0	0	0	0	0	0	0
2ACB	$\subsetneq\cup$	8	4	28	9	24	16	4	10	8	4	19	0	1
2ACC	$\supsetneq\cup$	5	0	0	0	3	0	0	0	0	7	0	0	0
FE37	$\overbrace{\quad}$	33	28	17	18	32	9	9	16	0	48	27	6	19
FE38	$\underbrace{\quad}$	291	172	177	258	121	132	173	100	8	66	155	47	62

Ucode	Op	37	39	40	41	42	43	44	45	46	47	49	51	52
0021	!	844	4,401	3,962	3,404	863	953	3,616	1,380	1,436	1,097	208	948	3,009
0022	“	3,832	1,448	1,140	72,457	2,029	1,907	5,729	817	2,196	1,754	3,392	3,913	3,726
0023	#	1,617	272	171	438	1,092	924	54	1,470	990	620	1,051	756	1,354
0024	$	28	18	0	0	0	0	0	0	5	9	0	0	0
0025	%	8	0	0	18	7	0	27	18	0	9	59	0	7
0026	&	32	9	0	73	17	64	0	72	105	35	89	4	127
002A	∗	22,799	17,136	11,914	11,188	16,917	40,104	14,397	18,448	51,675	43,601	14,147	15,662	22,468
002B	+	78,437	91,145	104,954	87,963	80,445	46,735	78,300	91,861	52,830	64,394	79,790	82,978	91,840
002C	,	102,165	117,367	131,121	114,060	115,225	116,982	118,622	111,508	105,127	104,307	112,284	119,811	110,388
002D	−	118,421	145,000	171,711	146,072	124,070	76,680	129,566	139,290	79,693	99,526	102,962	111,424	122,426
002E	.	2,769	1,203	1,710	188	858	423	94	2,251	852	651	8,742	1,590	423
002F	/	20,716	21,998	13,055	25,317	30,427	20,123	30,596	19,483	18,570	19,192	15,719	20,026	22,847
003A	:	1,754	808	370	1,102	431	1,561	94	363	3,278	1,149	1,538	852	2,142
003C	<	15,081	13,120	9,292	9,683	18,134	10,536	13,652	19,592	14,671	14,886	15,749	12,137	12,258
003D	=	130,767	142,639	146,029	144,567	113,446	142,136	125,733	126,071	129,731	135,305	117,434	153,205	133,289
003E	>	15,300	11,671	10,632	8,471	13,839	9,359	14,032	15,034	11,647	12,269	15,262	12,151	13,015
005C	\	1,148	112	142	316	1,486	1,039	203	853	812	507	962	1,379	727
007C	|	445	18	0	48	3	8	0	0	201	61	0	114	59
00A3	£	1	28	0	0	0	47	0	0	0	0	0	0	0
00A7	§	103	9	0	0	44	1,578	27	0	267	34	278	81	7
00A9	©	0	0	28	0	0	0	0	18	0	0	0	0	0
00AC	≠	20	0	114	0	1	25	0	0	3	0	44	4	0
00AF	¯	11,306	7,307	22,404	6,133	6,709	8,867	8,519	4,612	9,156	9,272	10,685	11,073	9,087
00B1	±	3,557	2,680	2,508	1,400	1,970	1,527	1,246	6,700	1,350	2,228	2,987	4,320	2,320
00B6	¶	46	0	0	0	156	0	0	0	89	67	0	2,461	127
00D7	×	11,594	5,125	8,864	3,562	5,723	10,549	6,880	5,901	9,155	7,301	9,069	10,001	12,264
00F7	÷	3	37	0	0	0	0	0	18	0	33	3	0	0
0127	ħ	258	0	0	103	5	0	148	453	256	455	3	43	412
0131	ı	16	0	0	0	0	0	13	0	6	16	338	0	7
0141	Ł	6	0	0	0	34	0	0	0	180	27	3	1,686	1
0142	ł	101	2,915	57	0	23	778	853	0	101	32	44	0	38
0152	Œ	0	0	0	0	0	196	0	0	0	0	0	0	0
02B9	′	20	0	28	0	403	0	0	0	11	8	0	0	42
02C6	ˆ	11,138	4,298	2,479	10,579	16,261	16,016	9,941	10,658	10,938	8,553	7,077	4,195	9,251
02C7	ˇ	471	28	427	1,479	721	1,480	663	18	699	647	286	608	168
02C9	¯	9,220	3,555	7,781	2,588	3,096	7,062	3,318	3,740	4,586	4,003	9,396	5,469	4,530
02CB	`	1	0	0	0	401	0	0	0	12	0	3	0	42
02D8	˘	149	300	0	0	14	136	0	2,705	158	102	144	0	17
02DA	˚	0	0	0	0	0	0	0	0	0	0	0	0	0
02DC	˜	20,602	24,820	10,318	10,512	12,516	12,161	14,695	15,797	13,945	16,438	13,586	14,853	11,078
2011	−−	0	0	0	0	0	0	0	0	0	0	0	0	0
2016	‖	179	0	0	529	57	0	0	0	1,161	970	0	229	526
2020	†	178	0	57	24	140	64	0	1,815	247	372	0	76	187
2021	‡	4	0	0	0	84	0	0	0	36	10	0	28	7
2026	…	8,016	6,386	8,636	7,594	4,953	5,124	5,580	2,451	7,673	9,385	3,332	9,478	12,252
2032	′	3,409	2,398	342	11,163	2,527	5,411	7,043	3,522	5,060	4,354	2,452	11,816	3,330
2035	‵	0	0	0	0	0	55	0	0	0	0	0	0	0
2061		113,424	127,205	83,290	96,368	101,992	129,075	112,743	139,490	119,764	126,499	139,889	117,833	99,526
20D7	→	1,486	714	541	1,565	7,464	560	5,864	127	1,530	494	973	215	506
2102	ℂ	474	395	0	572	89	179	690	72	487	468	141	62	218
210D	ℍ	86	159	0	0	23	0	0	0	54	0	0	95	30
210F	ℏ	0	0	0	0	0	0	0	0	26	0	0	0	0
2111	ℑ	166	37	0	426	340	4	325	181	97	307	7	158	170
2113	ℓ	6,973	6,198	8,779	6,510	8,675	11,199	1,611	4,757	6,208	8,666	4,982	10,096	8,013
2115	ℕ	209	996	0	310	79	231	67	0	194	305	3	71	87
2118	℘	110	0	0	73	0	0	0	0	49	7	33	0	42
2119	ℙ	44	0	0	0	23	128	0	0	76	186	0	62	203
211A	ℚ	72	112	0	791	7	0	0	0	128	18	0	4	34
211C	ℜ	303	338	570	602	386	988	257	453	178	255	70	440	199
211D	ℝ	712	526	399	919	1,300	859	2,099	236	558	523	1,055	1,259	1,679
2124	ℤ	899	1,288	28	2,564	224	594	121	90	835	164	0	81	1,416
2127	℧	0	0	0	0	0	0	0	0	3	0	0	0	0
2135	ℵ	148	0	4,304	0	5	179	0	0	152	145	0	43	67
2136	ℶ	0	0	0	0	0	0	0	0	0	0	0	0	7

Ucode	Op	37	39	40	41	42	43	44	45	46	47	49	51	52
2137	ℷ	0	0	0	0	0	0	0	0	30	0	0	0	0
2138	ℸ	0	0	0	0	0	0	0	0	0	0	0	0	0
2190	←	321	37	0	267	26	136	0	0	311	118	211	488	367
2191	↑	200	56	0	133	62	154	13	72	217	138	839	215	63
2192	→	22,923	14,888	10,489	10,231	9,613	20,961	9,765	15,688	22,970	18,783	19,995	21,252	16,070
2193	↓	226	28	0	188	84	102	121	72	289	197	535	637	427
2194	↔	59	9	142	79	3	21	67	0	62	9	3	52	34
2196	↖	4	0	0	0	0	4	0	0	40	1	0	4	0
2197	↗	82	37	0	24	44	51	13	0	105	63	18	23	9
2198	↘	54	47	342	42	37	42	176	54	61	90	66	43	23
2199	↙	0	0	0	6	1	4	0	0	2	4	7	19	3
219B	↛	8	0	0	0	0	0	0	0	0	5	0	0	0
219E	↞	2	0	0	0	0	0	0	0	0	0	0	0	0
21A0	↠	10	0	0	18	0	55	0	0	55	7	0	4	83
21A2	↢	0	0	0	0	0	0	0	0	0	0	0	0	0
21A3	↣	0	0	0	0	0	0	0	0	36	1	0	0	0
21A6	↦	2,710	2,802	1,425	1,900	1,459	4,359	3,657	1,434	3,219	2,251	2,857	2,131	1,927
21A9	↩	9	0	0	0	0	94	0	0	3	10	3	14	38
21AA	↪	253	178	0	103	48	231	203	18	747	285	133	459	396
21AB	↫	0	0	0	0	0	0	0	0	0	0	0	0	0
21AC	↬	0	0	0	0	0	0	0	0	0	0	0	0	1
21AD	↭	2	0	0	0	0	0	0	0	2	0	0	0	0
21AE	↮	0	0	0	0	0	0	0	0	0	0	0	0	0
21B0	↰	0	0	0	0	0	42	0	0	0	0	0	0	0
21B1	↱	1	0	0	0	0	51	0	0	0	0	0	0	0
21B6	↶	0	0	0	0	12	0	0	0	0	0	0	0	56
21B7	↷	8	56	0	0	7	0	0	0	43	0	0	19	0
21BA	↺	49	0	0	0	10	0	0	0	1	0	0	9	3
21BB	↻	1	0	0	0	1	0	0	0	49	0	0	0	0
21BC	↼	13	0	0	0	0	0	0	0	5	0	0	0	0
21BD	↽	0	0	0	0	0	0	0	0	0	0	0	0	0
21BE	↾	71	0	0	0	7	154	0	90	152	51	0	4	1
21BF	↿	2	0	0	0	0	4	0	0	0	0	0	0	0
21C0	⇀	51	385	969	0	19	29	0	653	24	92	390	9	19
21C1	⇁	0	0	0	0	0	0	0	0	0	0	0	0	0
21C4	⇄	0	0	0	0	0	0	0	0	0	0	3	0	1
21C5	↕	9	0	0	0	0	0	0	0	4	0	0	47	11
21C6	⇆	80	84	0	30	46	145	40	0	60	58	14	234	143
21C7	⇇	0	0	0	0	0	0	0	0	0	0	0	0	0
21C9	⇉	1	56	0	60	17	25	67	0	1	15	66	0	0
21CA	⇊	0	0	0	0	0	0	0	0	0	0	0	0	0
21CB	⇋	0	0	0	0	0	0	0	0	0	0	0	0	0
21CC	⇌	0	0	0	0	1	0	0	0	0	0	0	0	0
21CE	⇎	0	0	0	0	0	0	0	0	0	0	0	0	0
21CF	⇏	0	0	0	0	0	0	0	0	0	0	0	19	7
21D0	⇐	30	0	0	0	21	38	54	18	17	26	0	23	23
21D1	⇑	0	0	28	0	0	0	0	0	0	1	0	0	5
21D2	⇒	803	855	57	462	620	1,668	1,151	108	1,182	1,118	494	680	950
21D3	⇓	3	37	28	0	0	0	0	0	0	5	14	0	19
21D4	⇔	301	432	142	176	257	539	785	127	461	411	271	469	547
21D5	⇕	1	0	0	0	0	0	0	0	1	0	0	0	0
21DA	⇐	0	0	0	0	0	0	0	0	0	0	0	0	0
21DD	⇝	6	282	0	18	1	0	13	0	16	0	52	14	17
21E0	⇠	2	0	0	0	0	0	0	0	0	0	0	0	0
21E2	⇢	55	112	0	0	0	0	0	0	15	0	7	0	0
2200	∀	1,829	1,561	1,596	657	865	1,779	2,465	2,977	2,051	1,689	3,228	1,436	663
2201	∁	1	0	0	0	0	0	0	0	3	1	152	0	0
2202	∂	13,063	6,395	15,506	4,543	8,691	3,332	11,824	11,675	4,901	6,156	31,383	8,535	8,554
2203	∃	384	159	256	85	140	166	135	562	459	246	378	273	346
2204	∄	6	0	0	0	0	0	0	0	0	0	0	0	1
2205	∅	2,025	630	342	572	845	1,236	1,110	653	1,242	1,010	1,861	1,647	1,933
2207	∇	3,068	2,050	969	450	3,143	1,193	2,519	1,053	1,958	2,323	15,422	1,638	946
2208	∈	53,319	45,841	18,699	37,248	52,691	82,678	56,155	52,295	69,453	61,870	49,740	45,833	47,202
2209	∉	1,134	1,486	342	535	858	774	772	726	1,000	925	739	1,403	1,644

Ucode	Op	37	39	40	41	42	43	44	45	46	47	49	51	52
220B	$\ni$	297	188	0	176	237	688	121	36	378	414	219	81	79
220F	$\prod$	1,386	8,013	10,689	2,174	2,349	1,681	2,451	363	1,579	1,152	326	1,393	2,186
2210	$\coprod$	179	47	0	60	44	94	27	0	272	19	7	52	81
2211	$\sum$	11,276	15,650	30,984	20,707	26,944	16,465	13,788	11,766	19,117	16,658	5,788	8,161	13,957
2214	$\dot{+}$	0	0	0	0	0	0	0	0	29	46	0	0	0
2216	$\setminus$	3,767	3,150	1,938	1,193	2,963	2,382	1,855	1,434	2,485	2,019	8,953	3,113	5,323
2218	$\circ$	8,400	2,887	3,420	907	2,572	6,403	8,614	817	8,485	4,574	4,718	3,453	5,185
2219	$\bullet$	759	2,191	1,083	267	59	1,377	0	108	1,120	615	289	3,170	1,921
221A	$\surd$	0	0	0	0	0	0	0	0	0	1	0	67	27
221D	$\propto$	7	28	0	127	0	17	0	54	25	1	3	28	11
221E	∞	18,616	20,033	19,098	20,354	22,153	19,515	30,759	31,613	21,247	25,012	16,819	9,723	7,252
2220	$\angle$	92	0	0	24	113	0	0	0	6	11	100	1,096	328
2221	$\measuredangle$	27	0	0	0	48	0	0	0	0	0	0	225	0
2222	$\sphericalangle$	62	0	0	0	0	0	0	0	7	0	0	0	27
2223	$\mid$	8,542	4,768	4,646	3,989	7,380	10,339	6,433	4,230	7,831	7,262	8,192	5,594	7,349
2224	$\nmid$	28	28	0	0	28	0	0	0	2	4	0	28	23
2225	$\parallel$	747	1,786	85	261	2,786	3,234	419	726	2,061	1,626	535	622	210
2226	$\nparallel$	0	0	0	42	0	4	13	0	0	0	0	0	0
2227	$\wedge$	2,815	1,758	10,176	158	719	260	1,855	599	1,042	1,341	1,541	2,888	3,022
2228	$\vee$	650	3,715	0	1,961	494	1,762	568	0	1,006	647	211	924	1,805
2229	$\cap$	8,438	2,040	969	1,595	5,636	5,578	3,941	2,033	5,983	4,799	7,746	8,128	13,305
222A	$\cup$	5,115	3,188	1,567	1,620	4,359	3,961	2,234	1,870	3,994	2,457	4,168	7,270	8,355
222B	$\int$	8,747	2,736	21,406	11,468	21,131	11,717	29,323	22,897	7,590	9,788	19,720	2,179	3,800
222C	$\iint$	97	0	0	30	145	183	284	0	263	84	96	0	42
222D	$\iiint$	1	0	0	6	107	0	0	0	1	1	0	0	0
222E	$\oint$	70	0	0	0	86	29	67	90	70	45	3	158	265
2234	$\therefore$	0	0	0	0	0	0	0	0	0	0	0	0	0
2235	$\because$	1	0	0	0	0	0	0	0	0	0	0	0	0
223C	$\sim$	1,061	1,852	1,938	1,924	2,547	671	690	1,016	1,461	1,132	1,374	1,321	1,288
223D	$\backsim$	0	0	0	0	0	0	0	0	19	0	0	0	11
2240	$\wr$	17	0	0	0	0	25	0	0	14	1	3	0	412
2241	$\nsim$	1	0	0	0	68	17	0	0	19	30	66	4	44
2243	$\simeq$	524	733	28	24	212	1,001	325	36	730	353	37	325	760
2244	$\not\simeq$	4	9	0	0	0	0	0	0	9	3	0	0	0
2245	$\cong$	913	131	57	401	206	1,484	446	18	2,783	895	137	2,437	2,689
2247	$\ncong$	1	0	0	6	0	4	0	0	25	9	7	9	9
2248	$\approx$	372	141	28	487	940	213	40	399	305	129	378	507	356
2249	$\not\approx$	0	0	0	0	0	0	0	0	0	0	0	0	0
224A	$\approxeq$	0	0	0	0	3	8	0	0	8	0	0	0	0
224D	$\asymp$	1,738	2,586	2,850	1,138	1,288	1,150	2,031	1,343	769	975	2,444	2,687	1,149
224F	$\Bumpeq$	0	0	0	0	0	0	0	0	0	0	0	0	0
2250	$\doteq$	48	263	57	6	17	0	0	0	65	1	561	0	11
2251	$\doteqdot$	0	0	0	0	0	0	0	0	0	0	0	95	0
2252	$\fallingdotseq$	0	0	0	0	23	0	0	0	0	0	0	0	0
2257	$\circeq$	4	0	0	0	0	0	0	0	0	0	0	0	0
225C	$\triangleq$	4	0	0	0	0	0	0	0	9	14	3	0	0
2260	$\neq$	4,727	4,486	4,560	2,966	4,170	4,145	2,749	2,433	3,942	4,271	3,596	8,104	5,273
2262	$\not\equiv$	85	216	57	18	62	42	148	72	25	41	144	105	59
2264	$\leq$	20,400	22,939	9,064	22,522	42,824	18,578	18,948	29,942	26,312	27,630	29,425	18,799	25,862
2265	$\geq$	11,986	13,496	8,095	9,233	12,705	6,900	11,648	10,204	9,692	11,020	12,137	13,693	13,934
2266	$\leqq$	0	0	0	6	1	4	0	0	1	1	0	23	0
2267	$\geqq$	0	0	0	0	0	0	0	0	0	0	0	38	0
2268	$\lneqq$	3	0	0	0	0	0	0	0	0	0	0	0	0
2269	$\gneqq$	0	0	0	0	0	0	0	0	0	0	3	0	0
226A	$\ll$	437	0	285	73	678	34	501	18	227	164	468	14	81
226B	$\gg$	127	9	57	91	287	38	108	18	88	34	44	95	158
226D	$\not\asymp$	0	0	0	0	1	0	0	0	0	0	0	0	0
226E	$\not<$	0	0	0	0	1	0	0	0	2	1	0	23	1
226F	$\not>$	0	0	0	0	0	0	0	0	0	0	0	0	0
2270	$\not\leq$	2	0	0	0	1	0	0	0	24	25	0	138	32
2271	$\not\geq$	0	0	0	0	0	0	0	0	16	26	11	0	5
2272	$\lesssim$	703	0	0	36	4,832	410	907	0	154	61	33	119	75
2273	$\gtrsim$	41	0	0	6	703	0	0	0	6	3	0	67	42
2276	$\lessgtr$	1	0	0	0	0	0	0	0	0	0	0	0	0

Ucode	Op	37	39	40	41	42	43	44	45	46	47	49	51	52
2277	≷	1	0	0	0	0	0	0	0	1	2	0	0	0
227A	≺	343	75	57	140	32	376	0	90	143	272	0	71	615
227B	≻	37	131	0	12	8	4	0	36	26	29	0	0	162
227C	≼	193	489	0	749	0	47	0	54	104	237	59	67	344
227D	≽	81	84	0	36	0	17	0	36	34	36	52	38	13
227E	≾	8	0	0	12	0	8	0	0	56	56	0	0	0
227F	≿	0	0	0	0	0	0	0	0	0	1	0	0	0
2280	⊀	0	0	0	0	0	4	0	0	0	4	0	0	0
2281	⊁	0	0	0	0	0	0	0	0	0	0	0	0	0
2282	⊂	9,625	4,025	769	4,001	5,993	11,225	6,135	3,268	8,841	5,818	7,018	8,813	9,607
2286	⊆	1,095	1,815	142	992	2,142	3,430	1,259	254	3,884	3,206	1,337	3,180	3,980
2289	⊉	0	0	0	36	0	0	0	0	11	1	0	0	3
228A	⊊	40	56	0	0	73	47	0	0	15	42	11	91	131
228B	⊋	12	0	0	0	8	0	0	0	3	0	0	33	13
228E	⊎	6	0	0	42	23	8	148	0	20	0	0	76	87
228F	⊏	6	0	0	0	12	0	0	0	0	0	0	0	0
2290	⊐	0	0	0	0	0	0	0	0	0	0	0	0	0
2291	⊑	0	0	0	0	0	0	0	0	43	15	0	0	0
2292	⊒	0	0	0	0	0	0	0	0	2	0	0	0	0
2293	⊓	3	0	0	316	0	0	0	0	0	0	0	33	13
2294	⊔	254	28	0	554	57	4	0	0	214	24	26	335	458
2295	⊕	2,057	1,815	541	578	1,630	3,225	731	163	5,429	5,341	1,240	3,510	3,850
2296	⊖	4	9	0	255	496	235	0	18	163	422	219	0	3
2297	⊗	2,754	4,157	1,111	1,626	1,504	10,985	230	18	26,668	17,881	672	3,348	4,520
2299	⊙	16	37	1,909	0	223	509	0	0	504	411	70	402	481
229B	⊛	0	0	0	0	0	0	0	0	1	0	0	0	30
229D	⊝	0	0	0	0	0	0	0	0	0	0	0	0	0
229E	⊞	0	0	0	0	5	0	0	0	115	0	0	138	81
229F	⊟	0	0	0	0	0	0	0	0	0	0	0	0	29
22A0	⊠	68	0	0	0	0	0	13	0	84	59	0	0	17
22A1	⊡	0	0	0	0	0	0	0	0	0	0	0	0	0
22A2	⊢	11	0	0	0	19	4	0	0	37	0	70	0	150
22A3	⊣	29	0	0	0	0	0	0	0	40	0	0	0	210
22A5	⊥	1,184	1,203	28	1,096	1,333	1,749	1,747	889	1,710	2,256	613	1,652	1,296
22A7	⊧	5	0	0	0	84	0	0	0	0	0	0	0	0
22A9	⊩	9	0	0	0	0	0	0	0	4	0	0	0	0
22AC	⊬	0	0	0	0	0	0	0	0	0	0	0	0	0
22AD	⊭	0	0	0	0	0	0	0	0	0	0	0	0	0
22B2	◁	107	188	0	0	0	98	0	0	47	23	0	23	32
22B3	▷	0	141	0	0	0	0	0	0	12	0	55	0	7
22B4	◁	5	0	0	0	0	0	0	0	0	7	0	43	1
22B5	▷	0	0	0	0	0	0	0	0	0	0	0	110	0
22B8	⊸	0	0	0	0	0	0	0	0	0	0	0	0	0
22BA	⊺	0	0	0	0	0	0	0	0	0	0	0	14	98
22BB	⊻	0	0	0	0	0	0	0	0	0	11	0	0	0
22BC	⊼	0	0	0	0	0	0	0	0	0	0	0	0	0
22C0	⋀	44	75	0	30	10	98	13	0	56	102	18	426	325
22C1	⋁	151	206	0	231	52	299	94	0	337	247	3	14	259
22C4	⋄	48	9	0	0	32	162	121	0	116	45	0	86	195
22C5	⋅	8,885	4,157	8,921	12,138	9,551	11,032	14,275	11,947	8,492	7,394	12,966	12,395	8,224
22C6	⋆	1,424	536	28	219	196	2,006	623	417	1,027	709	1,746	809	977
22C7	⋇	0	0	0	0	0	0	0	0	0	0	0	19	0
22C8	⋈	2	0	0	0	0	0	0	0	0	0	0	0	0
22C9	⋉	144	47	0	12	3	128	94	0	478	120	0	177	30
22CA	⋊	159	0	0	12	25	77	108	0	1,955	187	0	584	224
22CB	⋋	0	0	0	0	0	38	0	0	0	0	0	0	17
22CC	⋌	0	0	0	0	0	0	0	0	0	0	0	0	0
22CD	⋍	0	0	0	0	1	0	0	0	100	2	0	0	0
22CF	⋏	20	0	0	0	0	106	0	0	0	0	0	0	48
22D0	⋐	56	0	0	0	25	0	0	290	52	37	144	0	0
22D1	⋑	4	0	0	0	0	0	0	0	1	0	0	0	0
22D2	⋒	0	0	0	0	0	0	0	0	2	0	0	0	0
22D3	⋓	0	0	0	0	0	0	0	0	2	0	0	0	0
22D6	⋖	0	0	0	0	0	0	0	0	13	0	0	0	42

Ucode	Op	37	39	40	41	42	43	44	45	46	47	49	51	52
22D7	⋗	0	0	0	0	0	0	0	0	0	0	0	0	25
22D8	⋘	0	0	0	0	0	0	0	0	0	0	0	0	0
22D9	⋙	0	0	0	0	0	0	0	0	0	0	0	0	0
22DB	⋛	0	0	0	0	0	0	0	0	0	0	0	0	0
22DF	⋟	0	0	0	0	0	0	0	0	0	0	0	0	0
22E0	⋠	0	9	0	0	0	0	0	0	2	0	0	4	1
22E1	⋡	0	0	0	0	0	0	0	0	0	0	0	0	0
22E2	⋢	0	0	0	0	0	0	0	0	0	0	0	0	0
22E6	⋦	0	0	0	0	0	0	0	0	0	0	0	0	0
22E8	⋨	0	0	0	0	0	0	0	0	0	0	0	0	0
22E9	⋩	0	0	0	0	0	4	0	0	0	0	0	0	0
22EB	⋫	0	0	0	0	0	0	0	0	0	0	0	0	0
22EC	⋬	0	0	0	0	0	0	0	0	0	0	0	0	0
22ED	⋭	0	0	0	0	0	0	0	0	0	0	0	0	0
22EE	⋮	297	686	171	797	590	427	1,611	599	501	775	185	464	710
22EF	⋯	9,048	8,558	22,176	10,901	9,411	10,266	8,438	3,740	11,039	10,365	4,763	10,633	20,529
22F1	⋱	122	272	1,083	261	242	132	121	835	225	465	63	81	350
2308	⌈	98	197	0	48	7	25	0	0	42	41	81	287	268
2309	⌉	98	197	0	48	7	25	0	0	29	32	26	186	267
230A	⌊	177	282	484	225	30	38	67	0	19	83	126	258	404
230B	⌋	187	282	484	225	28	38	67	0	39	95	66	569	406
2310	⌐	0	0	0	0	0	0	0	0	0	0	0	0	9
231C	⌜	0	0	0	0	0	0	0	0	0	0	0	52	0
231D	⌝	0	0	0	0	124	0	0	0	36	0	0	52	0
231E	⌞	0	0	0	0	0	0	0	0	26	0	230	0	0
231F	⌟	0	0	0	0	0	0	0	0	44	0	0	0	0
2322	⌢	2	0	0	0	0	628	0	0	116	163	0	0	3
2323	⌣	48	0	0	36	0	0	0	0	0	18	0	9	154
2329	〈	3,719	1,072	3,449	3,106	7,078	6,160	5,986	4,920	5,371	5,915	2,975	4,253	4,216
232A	〉	3,726	1,072	3,449	3,106	7,083	6,164	5,986	4,920	5,422	6,555	2,972	4,253	4,028
23D4	⏃	45	0	0	0	0	0	0	0	0	0	0	0	11
25A0	■	98	272	0	18	66	0	0	345	107	380	200	205	174
25A1	■	392	84	85	158	771	842	1,205	181	519	200	222	464	663
25AA	□	0	0	0	0	0	0	0	0	0	0	0	0	0
25AB	□	639	1,730	142	182	1,070	299	148	726	529	425	549	704	1,130
25B2	▲	4	0	0	0	0	0	0	0	4	17	0	76	0
25B3	△	269	0	0	73	111	51	94	399	118	74	115	296	532
25B6	▶	16	0	0	0	0	0	0	0	0	0	0	0	5
25BB	▷	15	0	0	0	0	4	0	0	297	87	0	4	15
25BC	▼	4	0	0	0	12	0	0	0	0	0	0	14	0
25BD	▽	1	244	0	54	7	0	0	0	30	6	0	0	0
25C0	◀	19	0	0	0	0	0	0	0	3	7	0	14	0
25C5	◁	92	0	0	377	0	17	0	0	108	133	0	47	0
25CA	◊	42	37	0	12	0	64	0	18	3	0	0	0	3
25EF	◯	4	0	0	66	32	77	0	308	15	77	0	38	56
2605	★	3	0	0	12	0	0	0	0	9	0	0	0	0
2660	♠	12	0	28	0	0	0	0	0	10	9	0	0	0
2663	♣	0	0	57	0	0	0	0	0	40	0	0	0	0
2665	♡	22	18	28	0	0	0	0	0	34	52	0	0	0
2666	♢	46	18	0	0	0	4	0	0	32	70	494	0	90
266D	♭	179	150	0	24	217	0	0	0	99	163	1,452	9	23
266E	♮	148	0	0	0	125	21	0	0	255	297	464	0	3
266F	♯	449	319	0	523	332	2,010	0	0	547	899	858	320	392
2A0C	⨌	0	0	0	0	0	0	0	0	2	0	0	0	0
2A7D	⩽	1,207	0	171	54	215	213	270	345	387	1,241	1,151	138	228
2A7E	⩾	619	0	199	18	149	141	257	181	157	538	375	76	164
2A85	⪅	0	0	0	12	395	0	0	0	0	2	0	0	46
2A86	⪆	0	0	0	0	282	0	0	0	0	0	0	0	3
2A87	⪇	1	0	0	0	0	0	0	0	0	1	0	0	0
2A88	⪈	0	0	0	0	0	0	0	0	0	0	0	0	0
2A8B	⪋	0	0	0	0	0	0	0	0	0	0	0	0	0

Ucode	Op	37	39	40	41	42	43	44	45	46	47	49	51	52
2A8C	$\leq\leq\leq$	0	0	0	0	0	0	0	0	0	0	0	0	0
2A95	$\leqslant\leqslant\leqslant$	0	0	0	0	0	0	0	0	1	0	0	0	0
2A96	$\geqslant\geqslant\geqslant$	0	0	0	0	0	0	0	0	0	0	0	0	0
2AC5	$\subseteq\subseteq\subseteq$	0	0	0	0	0	0	0	0	0	0	0	0	0
2AC6	$\supseteq\supseteq\supseteq$	0	0	0	0	0	0	0	0	0	0	0	0	0
2ACB	$\subsetneqq\subsetneqq\subsetneqq$	16	0	0	85	26	68	0	0	21	27	0	4	5
2ACC	$\supsetneqq\supsetneqq\supsetneqq$	8	0	0	0	0	4	0	0	2	0	0	4	0
FE37	⏜	45	9	171	30	1	25	0	0	37	14	22	263	5
FE38	⏝	104	122	1,567	267	140	188	67	36	160	116	81	531	158

Ucode	Op	53	54	55	57	58	60	62	65	68	70	74	76	78
0021	!	1,062	1,972	3,158	1,323	1,975	2,511	1,856	2,095	2,365	540	36	323	3,120
0022	“	3,549	2,773	6,511	4,347	2,206	2,264	1,682	1,700	4,403	1,817	758	1,664	1,817
0023	#	2,364	2,830	1,633	3,104	1,249	812	393	463	1,380	2,467	24	480	0
0024	$	7	0	0	7	0	2	0	0	42	0	0	0	0
0025	%	2	0	15	186	0	32	133	168	79	0	61	73	68
0026	&	8	577	15	18	44	41	5	10	60	17	24	18	0
002A	∗	33,185	27,347	62,257	32,186	33,350	14,306	13,722	13,979	17,178	29,253	7,851	11,934	12,618
002B	+	79,338	48,925	66,941	73,636	80,065	74,205	82,846	102,623	85,277	77,767	70,280	90,715	109,587
002C	,	116,679	81,624	90,017	111,096	114,297	113,632	109,661	132,853	134,116	112,541	125,238	115,306	130,743
002D	−	106,105	64,297	95,104	115,373	114,609	127,862	137,043	145,635	121,499	109,493	86,997	110,406	153,202
002E	.	2,654	858	666	1,232	2,502	674	896	4,317	1,158	11,875	11,519	2,126	0
002F	/	17,708	13,605	21,702	22,047	19,615	30,572	31,545	23,874	18,988	16,119	11,116	19,015	28,391
003A	:	2,027	8,657	9,970	2,990	1,384	385	879	154	246	724	2,323	64	34
003C	<	9,427	20,204	10,684	9,750	10,175	18,297	14,451	11,775	15,451	8,091	12,412	15,826	11,075
003D	=	137,088	121,521	106,032	127,032	125,163	118,189	127,241	140,894	133,161	156,224	104,889	105,738	145,727
003E	>	11,602	13,073	20,985	14,049	12,055	19,029	16,510	10,833	17,273	9,103	11,837	18,331	8,949
005C	\	1,066	1,609	1,023	1,105	1,193	544	532	291	1,630	563	183	55	137
007C	|	97	0	189	223	206	102	23	28	57	0	0	1,442	0
00A3	£	60	0	0	0	30	0	0	0	0	230	0	0	0
00A7	§	129	123	304	96	41	15	17	3	36	0	0	9	34
00A9	©	0	0	0	0	0	0	0	0	0	0	0	0	0
00AC	≠	0	387	22	3	1	32	0	79	142	0	0	0	0
00AF	¯	13,815	13,527	14,625	11,950	12,631	6,770	18,696	10,380	10,886	7,527	20,777	7,044	4,491
00B1	±	3,465	1,048	1,450	5,857	3,541	1,179	838	2,875	2,031	3,404	5,918	850	5,966
00B6	¶	304	41	297	274	86	478	0	0	240	0	0	9	0
00D7	×	15,835	15,507	22,405	22,396	12,706	4,999	6,112	7,954	7,268	18,592	10,724	9,715	8,537
00F7	÷	7	404	0	0	4	6	121	21	79	0	0	9	0
0127	ħ	1,005	86	0	128	705	14	52	111	112	626	48	0	1,200
0131	ı	170	8	213	35	15	8	0	0	3	5	0	0	0
0141	Ł	99	53	264	190	68	34	0	57	3	0	0	0	0
0142	ł	35	144	28	22	7	329	17	280	0	5	0	0	205
0152	Œ	0	0	0	0	0	0	0	0	0	0	0	0	0
02B9	′	49	45	15	9	40	2	0	3	3	0	0	0	0
02C6	ˆ	11,838	6,214	11,207	11,266	10,298	9,655	20,876	10,916	6,684	7,987	3,411	8,828	3,840
02C7	ˇ	835	359	784	517	447	603	277	654	264	264	97	194	0
02C9	¯	12,580	8,967	7,807	7,092	10,377	6,871	4,117	5,708	3,618	12,042	4,145	10,945	12,241
02CB	`	5	0	1	2	28	1	0	0	0	0	0	0	0
02D8	˘	353	132	205	139	327	245	277	14	3	362	0	27	68
02DA	°	44	0	24	34	41	0	0	0	0	0	0	0	0
02DC	˜	25,523	10,254	15,137	20,445	22,096	14,058	9,628	11,851	7,715	22,755	11,556	20,846	15,087
2011	−−	0	0	0	0	0	0	0	0	0	0	0	0	0
2016	‖	355	0	85	58	253	755	0	312	60	0	0	0	0
2020	†	762	614	150	186	519	190	225	71	389	1,926	12	36	0
2021	‡	12	4	6	16	5	5	0	0	6	69	0	0	0
2026	. . .	5,904	2,909	6,630	7,460	4,535	8,981	9,784	8,817	21,433	10,201	3,277	1,377	4,423
2032	′	3,465	2,818	4,074	4,221	5,889	3,122	3,845	4,029	1,912	4,600	1,308	1,479	2,743
2035	‵	0	0	0	0	0	0	0	0	0	0	0	0	0
2061		91,929	133,174	90,334	101,890	100,482	132,048	137,165	110,559	115,627	89,343	126,510	123,589	117,267
20D7	→	1,104	1,382	3,044	976	849	2,668	3,533	2,142	7,809	638	0	388	34
2102	ℂ	1,769	247	162	894	791	116	5	17	85	11	61	36	0
210D	ℍ	178	0	140	252	96	58	0	0	0	0	183	0	0
210F	ℏ	2	0	0	0	8	0	0	0	0	0	0	0	0
2111	ℑ	111	0	65	103	173	194	11	312	9	120	12	55	0
2113	ℓ	5,025	3,070	5,541	5,349	4,914	7,764	5,568	8,148	6,498	4,422	3,693	17,120	4,251
2115	ℕ	46	581	99	82	241	287	138	0	6	5	122	18	0
2118	℘	75	177	463	181	97	26	0	0	0	46	0	0	0
2119	ℙ	260	103	120	78	182	298	341	0	0	0	0	27	0
211A	ℚ	98	272	170	174	18	6	0	0	33	0	0	0	0
211C	ℜ	147	66	28	67	297	285	28	492	158	310	12	55	0
211D	ℝ	1,557	1,287	565	990	1,768	969	335	265	589	598	672	286	0
2124	ℤ	299	1,506	680	1,441	399	318	11	7	377	207	195	379	0
2127	℧	0	0	0	3	0	0	0	0	0	0	0	0	0
2135	ℵ	60	1,242	110	137	22	27	11	7	206	0	0	0	68
2136	ℶ	1	61	0	0	0	0	0	0	12	0	0	0	0

Ucode	Op	53	54	55	57	58	60	62	65	68	70	74	76	78
2137	⌋	0	0	0	0	0	0	0	0	0	0	0	0	0
2138	⌉	0	0	0	0	0	0	0	0	0	0	0	0	0
2190	←	168	924	1,294	254	261	212	179	431	1,088	224	12	0	0
2191	↑	98	598	273	123	394	538	352	57	246	115	12	101	1,440
2192	→	22,506	34,981	60,182	31,976	24,185	15,614	13,769	13,810	18,176	19,040	26,329	11,795	10,663
2193	↓	275	817	1,477	477	470	757	468	165	252	143	281	46	2,605
2194	↔	34	24	34	102	10	85	0	14	218	46	0	0	0
2196	↖	1	8	12	22	1	0	0	0	0	0	0	0	0
2197	↗	49	53	143	103	70	139	167	93	94	0	207	9	0
2198	↘	61	37	40	43	48	145	23	71	12	0	158	55	0
2199	↙	14	8	22	24	6	1	0	0	3	0	0	0	0
219B	↛	0	4	0	0	3	3	5	0	0	0	0	0	0
219E	↞	0	0	5	16	0	0	0	0	0	0	0	0	0
21A0	↠	10	103	275	108	20	1	0	3	27	0	0	0	0
21A2	↢	0	0	1	0	0	0	0	0	0	0	0	0	0
21A3	↣	6	0	181	25	0	0	0	0	3	0	0	0	0
21A6	↦	3,126	2,702	2,970	2,817	2,748	1,447	983	970	3,807	2,656	2,763	1,192	514
21A9	↩	2	33	10	6	3	3	0	0	0	0	0	0	0
21AA	↪	526	255	1,294	829	592	26	0	150	167	546	24	83	0
21AB	↫	0	0	0	0	0	0	0	0	0	0	0	0	0
21AC	↬	2	0	46	73	1	5	0	0	12	0	0	0	0
21AD	↭	1	0	5	3	1	1	0	0	0	0	0	0	0
21AE	↮	0	0	0	0	0	6	0	0	0	0	0	0	0
21B0	↰	0	0	0	0	0	0	0	0	0	0	0	0	0
21B1	↱	0	0	0	0	0	0	0	0	0	0	0	0	0
21B6	↶	0	0	0	5	0	0	0	0	0	17	0	0	0
21B7	↷	6	0	0	38	8	5	0	35	821	0	0	0	0
21BA	↺	4	0	7	7	11	0	52	0	48	0	0	0	0
21BB	↻	6	0	5	27	16	1	52	0	0	0	0	0	0
21BC	↼	14	28	0	15	0	0	0	0	51	0	0	0	0
21BD	↽	0	0	0	0	0	0	0	0	0	0	0	0	0
21BE	↾	2	738	0	1	43	3	0	0	82	0	0	0	0
21BF	↿	1	12	0	0	0	0	0	0	0	0	0	0	0
21C0	⇀	40	66	0	30	49	12	0	273	0	80	2,225	462	0
21C1	⇁	0	0	0	0	0	0	0	0	0	0	0	0	0
21C4	⇄	0	0	105	4	3	0	0	0	57	5	0	0	0
21C5	⇅	6	8	0	9	10	4	28	0	3	0	0	0	480
21C6	⇆	49	82	142	181	28	330	52	14	76	155	0	9	0
21C7	⇇	0	0	0	0	0	0	0	0	0	0	0	0	0
21C9	⇉	135	28	134	49	413	3	0	17	0	0	0	0	0
21CA	⇊	0	0	0	0	4	0	0	0	0	0	0	0	0
21CB	⇋	0	0	0	0	0	0	0	0	0	0	0	0	0
21CC	⇌	0	33	7	16	0	0	0	0	0	0	0	0	0
21CE	⇎	0	0	0	0	0	0	0	0	0	0	0	0	0
21CF	⇏	0	0	0	1	0	0	0	0	0	0	0	0	0
21D0	⇐	19	49	108	15	9	16	5	14	18	5	24	0	0
21D1	⇑	0	0	3	2	0	0	0	0	3	0	0	0	0
21D2	⇒	350	2,620	1,098	563	385	466	532	424	742	304	440	184	68
21D3	⇓	4	12	25	6	1	2	0	7	3	0	0	0	0
21D4	⇔	274	1,064	335	256	225	181	161	129	383	230	122	46	0
21D5	⇕	0	0	0	0	0	2	0	0	0	0	0	0	0
21DA	⇐	0	0	0	0	0	0	0	0	0	0	0	0	0
21DD	⇝	35	66	26	62	24	53	11	21	127	5	36	0	0
21E0	⇠	0	0	0	0	0	0	0	0	0	0	0	0	0
21E2	⇢	2	0	0	8	5	0	0	0	27	0	0	0	0
2200	∀	1,358	1,918	254	545	1,716	1,619	1,578	1,563	1,207	1,696	2,250	841	480
2201	∁	3	0	6	8	4	14	0	0	6	0	0	0	0
2202	∂	26,256	2,488	8,660	20,098	24,182	5,713	5,349	8,540	6,869	45,942	30,756	30,589	9,703
2203	∃	138	973	59	120	162	443	826	176	416	109	464	83	0
2204	∄	0	0	0	0	1	6	0	0	0	0	0	0	0
2205	∅	628	4,729	1,571	2,216	742	1,201	1,191	654	2,399	339	2,714	120	480
2207	∇	15,088	210	1,500	3,233	10,111	2,339	433	7,005	231	12,243	37,506	26,429	3,531
2208	∈	38,087	99,530	34,149	36,123	43,340	42,239	31,389	36,009	40,722	35,947	58,638	35,665	26,368
2209	∉	453	2,896	604	755	614	907	630	625	1,353	465	366	110	411

Ucode	Op	53	54	55	57	58	60	62	65	68	70	74	76	78
220B	$\ni$	211	309	82	79	323	265	52	32	124	276	36	83	34
220F	$\prod$	1,111	1,960	2,177	1,480	1,046	2,711	2,411	1,524	2,758	713	207	231	137
2210	$\coprod$	116	268	1,724	512	102	188	0	17	33	40	0	0	0
2211	$\sum$	9,834	7,035	5,997	7,746	11,541	18,789	20,431	17,451	13,271	22,887	7,166	7,543	27,225
2214	$\dotplus$	11	0	0	0	50	0	0	0	0	0	0	0	0
2216	$\setminus$	2,473	7,233	2,547	4,310	2,653	1,847	601	1,498	2,587	1,075	19,615	776	1,131
2218	$\circ$	6,642	9,912	12,872	7,364	6,635	3,212	2,486	2,498	5,525	11,179	1,125	3,291	445
2219	$\bullet$	1,759	755	8,494	2,579	2,181	500	306	830	960	483	403	212	1,748
221A	$\surd$	0	0	1	8	0	2	0	89	0	0	0	0	0
221D	$\propto$	11	0	0	6	3	31	150	25	48	11	0	64	0
221E	∞	12,487	13,135	11,093	9,895	18,266	25,764	21,697	14,820	8,226	9,408	17,952	30,247	9,292
2220	$\angle$	187	185	0	97	71	10	0	43	45	57	0	9	0
2221	$\measuredangle$	43	28	0	12	5	0	0	0	0	0	0	0	0
2222	$\sphericalangle$	0	8	0	0	0	1	0	0	0	0	0	0	0
2223	$\mid$	9,194	7,828	7,489	7,849	9,791	9,771	22,298	4,838	8,657	9,747	6,175	5,001	2,571
2224	$\nmid$	3	12	54	53	3	1	0	0	36	0	0	0	0
2225	$\parallel$	378	375	194	338	677	682	665	618	425	1,575	1,235	1,220	548
2226	$\nparallel$	6	0	0	2	0	0	0	25	0	5	0	0	0
2227	$\wedge$	9,666	5,579	10,324	3,775	7,185	1,839	1,121	567	681	6,297	574	2,024	0
2228	$\vee$	454	2,459	3,075	610	436	1,028	676	463	392	132	1,063	212	274
2229	$\cap$	5,066	17,608	5,084	9,101	4,403	4,327	1,671	3,127	8,514	4,169	10,406	2,865	1,474
222A	$\cup$	2,764	13,650	5,075	9,801	2,683	2,827	2,486	2,092	5,835	1,023	8,303	1,146	377
222B	$\int$	7,002	1,200	1,389	3,025	11,417	16,484	16,128	12,253	3,138	8,131	29,777	27,899	35,214
222C	$\iint$	7	12	4	17	263	62	121	154	0	0	269	305	1,440
222D	$\iiint$	1	0	0	0	0	0	0	0	0	0	0	0	171
222E	$\oint$	59	0	44	17	135	14	0	3	0	23	0	9	0
2234	$\therefore$	0	0	0	0	0	0	0	0	0	0	0	0	0
2235	$\because$	0	0	0	0	0	1	0	0	0	0	0	0	0
223C	$\sim$	803	1,184	2,386	1,252	1,138	1,781	2,573	1,211	2,207	695	3,008	859	720
223D	$\backsim$	0	0	0	3	3	0	0	0	0	0	0	0	0
2240	$\wr$	0	0	211	159	4	169	0	0	12	0	0	0	0
2241	$\nsim$	8	0	4	6	15	11	5	0	18	0	0	9	0
2243	$\simeq$	789	771	3,675	1,255	861	186	115	168	453	736	0	27	68
2244	$\not\simeq$	4	0	30	1	0	0	0	0	72	0	0	0	0
2245	$\cong$	2,011	1,357	8,417	4,867	1,747	100	17	463	2,755	1,081	73	27	0
2247	$\ncong$	12	4	27	83	9	0	0	0	57	0	12	0	0
2248	$\approx$	272	210	394	370	202	415	248	877	352	276	207	221	411
2249	$\not\approx$	2	0	0	1	3	1	5	0	3	34	0	0	0
224A	$\approxeq$	15	0	0	22	0	1	0	0	0	0	0	0	0
224D	$\asymp$	1,429	1,006	1,191	2,065	1,443	1,411	1,833	1,563	2,490	1,684	1,100	2,246	1,680
224F	$\Bumpeq$	0	0	0	0	0	0	0	0	0	0	0	0	0
2250	$\doteq$	47	41	73	15	73	128	17	3	124	0	0	18	0
2251	$\doteqdot$	58	0	0	0	10	0	0	0	0	115	0	0	0
2252	$\fallingdotseq$	0	0	0	0	0	0	0	0	0	0	0	0	0
2257	$\risingdotseq$	0	0	0	0	0	0	0	0	0	0	0	0	0
225C	$\triangleq$	0	0	0	18	0	137	138	0	538	11	0	0	0
2260	$\neq$	4,506	6,961	3,391	5,273	3,462	3,103	2,457	2,976	4,731	5,100	2,922	1,848	1,680
2262	$\not\equiv$	71	33	58	100	63	24	57	10	54	34	12	27	0
2264	$\leq$	14,496	30,516	12,686	13,511	17,882	37,545	35,848	28,921	24,322	11,323	37,115	39,612	28,905
2265	$\geq$	7,611	14,562	8,333	9,156	8,264	20,420	15,243	8,350	12,337	4,571	9,159	9,059	7,646
2266	$\leqq$	5	0	7	44	3	0	0	10	0	0	0	0	0
2267	$\geqq$	0	0	0	42	0	0	0	14	0	0	0	0	0
2268	$\lneqq$	0	8	0	0	0	0	0	0	0	0	0	0	0
2269	$\gneqq$	0	0	0	0	1	0	0	0	0	0	0	0	0
226A	$\ll$	93	66	318	210	206	248	173	212	264	57	501	157	102
226B	$\gg$	140	165	199	116	90	121	156	208	57	5	85	175	68
226D	$\not\asymp$	0	0	0	0	0	0	0	0	0	0	0	0	0
226E	$\not<$	0	33	3	0	1	0	0	0	0	0	0	0	0
226F	$\not>$	3	20	0	4	0	0	0	0	0	0	0	0	0
2270	$\not\leq$	1	57	10	7	1	2	28	14	21	0	0	0	0
2271	$\not\geq$	1	49	23	10	1	1	11	0	6	0	12	0	0
2272	$\lesssim$	55	0	0	12	79	47	75	248	0	11	97	18	0
2273	$\gtrsim$	13	0	0	6	7	12	57	28	12	0	0	0	0
2276	$\lessgtr$	0	0	0	0	0	0	0	0	0	11	0	0	0

Ucode	Op	53	54	55	57	58	60	62	65	68	70	74	76	78
2277	≷	0	0	0	0	2	0	0	0	0	0	12	0	0
227A	≺	53	317	169	279	64	207	0	179	413	0	379	0	0
227B	≻	70	33	18	29	28	52	0	100	42	0	0	0	0
227C	≼	68	577	87	147	59	230	190	431	136	23	0	166	0
227D	≽	13	45	8	11	8	55	34	64	0	0	0	55	0
227E	≾	0	28	0	0	0	0	0	0	0	0	0	0	0
227F	≿	0	8	0	0	0	0	0	0	0	0	0	0	0
2280	⊀	0	0	2	0	0	0	0	0	0	0	0	0	0
2281	⊁	0	0	0	0	0	2	0	0	0	0	0	0	0
2282	⊂	7,435	16,122	6,063	10,380	6,288	3,416	1,445	3,267	5,455	6,412	7,484	2,394	1,817
2286	⊆	866	11,810	2,644	1,302	1,322	1,031	647	1,178	1,924	235	3,595	194	68
2289	⊉	0	20	0	1	0	0	0	25	0	0	0	0	0
228A	⊊	14	148	25	14	12	19	0	7	51	40	0	9	0
228B	⊋	6	33	0	1	1	1	0	3	24	0	0	0	0
228E	⊎	0	90	112	30	8	22	23	0	118	0	0	0	0
228F	⊏	1	20	0	0	0	0	0	0	24	46	0	0	0
2290	⊐	10	0	0	3	0	0	0	0	0	0	0	0	0
2291	⊑	0	701	0	0	0	0	0	0	0	0	0	0	0
2292	⊒	0	160	0	0	0	0	0	0	0	0	0	0	0
2293	⊓	58	458	21	26	9	36	0	0	0	0	0	203	0
2294	⊔	279	532	1,753	882	126	49	11	35	1,502	69	0	0	34
2295	⊕	5,227	2,570	6,083	5,495	4,282	513	133	1,847	1,696	3,663	3,081	120	651
2296	⊖	29	90	58	31	11	36	0	0	76	5	0	9	0
2297	⊗	8,116	6,631	22,567	10,451	9,027	4,709	1,613	1,168	2,889	4,192	1,809	3,559	582
2299	⊙	185	20	57	100	157	164	17	1,247	1,119	17	207	0	0
229B	⊛	13	49	53	146	0	0	0	0	0	0	0	0	0
229D	⊝	0	0	0	0	0	0	0	0	0	0	0	0	0
229E	⊞	23	8	0	42	31	98	28	0	176	0	0	0	0
229F	⊟	0	0	41	0	0	0	0	0	27	0	0	0	0
22A0	⊠	90	86	1,678	29	46	6	0	0	3,977	172	0	0	0
22A1	⊡	0	0	27	6	0	0	0	0	149	0	0	0	0
22A2	⊢	45	198	22	1	53	70	0	0	3	0	232	0	0
22A3	⊣	0	12	44	9	1	34	0	0	0	0	0	0	0
22A5	⊥	1,915	1,770	789	719	1,569	363	254	420	662	1,017	85	1,700	240
22A7	⊧	12	53	0	0	0	9	0	0	6	0	0	0	0
22A9	⊩	0	127	0	0	0	0	0	0	0	0	0	0	0
22AC	⊬	0	16	0	0	0	0	0	0	0	0	0	0	0
22AD	⊭	0	4	0	0	0	0	0	0	0	0	0	0	0
22B2	◁	3	70	89	38	15	21	0	0	69	0	0	0	0
22B3	▷	2	0	7	16	34	13	0	0	24	0	0	0	0
22B4	◁	7	99	14	4	0	3	0	0	0	0	0	0	0
22B5	▷	0	33	0	0	0	3	0	0	0	0	0	0	0
22B8	⊸	0	0	0	4	0	0	0	0	0	0	0	0	0
22BA	⊺	11	0	0	0	0	0	0	0	0	0	0	0	0
22BB	⊻	0	0	0	0	0	0	0	0	0	0	0	0	0
22BC	⊼	0	0	0	0	0	0	0	0	0	0	0	0	0
22C0	⋀	459	420	227	382	308	30	86	150	91	327	146	0	0
22C1	⋁	29	808	389	56	56	69	133	50	18	0	0	0	0
22C4	⋄	157	165	251	304	90	167	34	0	91	0	0	0	0
22C5	⋅	12,170	7,143	6,724	7,495	9,643	7,929	8,714	12,534	7,715	12,898	7,215	34,897	8,640
22C6	⋆	1,665	1,440	872	830	951	1,003	179	348	784	293	36	110	0
22C7	⋇	0	0	0	0	0	0	0	0	0	0	0	0	0
22C8	⋈	38	0	4	90	4	9	0	0	72	0	0	0	0
22C9	⋉	196	94	142	109	123	17	0	0	0	5	0	0	0
22CA	⋊	68	375	336	214	221	1	0	0	42	69	0	0	0
22CB	⋋	0	0	14	0	0	0	0	0	0	0	0	0	0
22CC	⋌	17	0	0	0	0	0	0	0	0	0	0	0	0
22CD	⋍	2	0	1	0	42	0	0	3	0	0	0	0	0
22CF	⋏	0	0	0	0	0	23	0	0	0	0	0	0	0
22D0	⋐	3	12	0	0	12	14	0	0	0	17	0	18	0
22D1	⋑	0	12	0	0	0	0	0	0	0	0	0	0	0
22D2	⋒	0	8	0	0	0	0	0	0	0	0	0	0	0
22D3	⋓	0	12	0	0	0	0	0	0	0	0	0	0	0
22D6	⋖	0	111	3	6	0	0	0	57	12	0	0	0	0

Ucode	Op	53	54	55	57	58	60	62	65	68	70	74	76	78
22D7	⋗	0	0	2	7	0	0	0	0	9	0	0	0	0
22D8	⋘	0	0	47	0	0	1	0	0	145	0	0	0	0
22D9	⋙	0	0	0	0	0	1	0	0	0	0	0	0	0
22DB	⋛	0	0	0	0	0	0	0	0	0	0	0	0	0
22DF	⋟	0	0	0	0	0	1	0	0	0	0	0	0	0
22E0	⋠	0	0	0	0	0	3	0	3	3	0	0	9	0
22E1	⋡	0	0	0	0	0	0	0	0	0	0	0	0	0
22E2	⋢	0	0	0	0	0	0	0	0	0	0	0	0	0
22E6	⋦	0	0	0	0	0	0	0	0	0	0	0	0	0
22E8	⋨	0	0	0	0	0	0	0	0	0	0	0	0	0
22E9	⋩	0	0	0	0	5	0	0	0	0	0	0	0	0
22EB	⋫	0	0	0	0	0	0	0	0	0	0	0	0	0
22EC	⋬	0	0	0	0	0	0	0	0	0	0	0	0	0
22ED	⋭	0	0	0	0	0	0	0	0	0	0	0	0	0
22EE	⋮	215	45	180	381	182	135	433	531	322	437	24	0	0
22EF	⋯	8,611	7,741	12,917	11,234	8,018	8,031	7,650	10,118	15,180	7,125	2,641	3,198	13,166
22F1	⋱	72	8	28	68	27	51	63	319	51	74	0	0	0
2308	⌈	22	111	241	92	24	242	260	43	495	0	0	0	0
2309	⌉	15	111	241	91	26	231	208	43	489	0	330	0	0
230A	⌊	38	272	74	200	29	509	474	222	772	51	12	0	0
230B	⌋	89	272	75	210	107	488	451	150	693	287	0	0	0
2310	⌐	0	8	0	0	0	0	0	0	15	0	0	0	0
231C	⌜	19	0	0	5	0	0	0	21	0	0	0	0	205
231D	⌝	3	0	0	5	0	0	0	21	0	0	0	0	205
231E	⌞	25	0	5	0	2	0	0	0	0	0	0	0	0
231F	⌟	543	0	0	14	192	0	0	0	0	17	0	0	0
2322	⌢	0	123	24	76	1	0	0	0	27	11	0	0	0
2323	⌣	35	0	458	117	7	1	0	0	85	11	0	0	0
2329	〈	5,595	4,819	3,590	4,512	5,034	3,842	1,064	1,890	3,050	5,417	3,839	3,124	1,645
232A	〉	5,608	4,423	3,591	4,524	5,236	3,873	1,827	1,887	3,068	5,417	3,839	3,124	1,645
23D4	⏃	35	0	94	76	24	0	0	0	0	115	0	0	0
25A0	■	157	90	72	86	74	113	52	323	118	327	0	0	960
25A1	■	360	718	951	545	265	593	185	255	638	713	12	166	0
25AA	□	0	0	0	1	0	0	0	0	0	0	0	0	0
25AB	□	720	491	1,358	773	872	552	566	391	681	575	428	878	445
25B2	▲	29	12	2	1	0	0	0	255	0	0	0	0	0
25B3	△	480	1,419	339	433	479	254	370	168	60	17	48	3,392	0
25B6	▶	2	0	1	6	16	0	0	0	0	0	0	0	0
25BB	▷	5	0	57	237	202	18	0	79	18	0	0	0	0
25BC	▼	2	0	0	0	0	0	0	0	0	28	0	0	0
25BD	▽	94	78	45	9	230	1	69	35	0	0	0	64	0
25C0	◀	1	0	15	2	12	0	0	0	0	0	0	0	0
25C5	◁	2	70	74	72	182	14	0	0	0	5	0	0	0
25CA	◊	30	41	20	7	0	10	0	0	88	115	12	0	0
25EF	◯	14	0	39	65	8	4	104	0	54	11	0	0	0
2605	★	6	49	85	6	0	18	0	0	6	0	0	0	0
2660	♠	0	0	0	3	0	1	0	0	0	0	0	0	0
2663	♣	44	0	39	22	57	1	0	25	0	0	0	73	0
2665	♡	3	8	0	0	13	1	0	0	0	0	0	0	0
2666	♢	20	618	85	14	16	149	150	0	39	126	0	0	0
266D	♭	414	0	204	104	274	34	0	35	0	373	0	64	0
266E	♮	24	16	110	76	59	65	0	0	121	0	0	0	0
266F	♯	974	375	608	1,021	1,077	188	86	740	24	1,403	110	231	0
2A0C	⨌	0	0	0	0	0	0	0	0	0	0	0	0	0
2A7D	⩽	326	437	699	532	326	1,295	156	1,028	1,918	759	0	18	2,811
2A7E	⩾	164	206	657	369	99	611	17	381	1,100	448	0	46	685
2A85	⪅	0	0	0	0	0	0	0	7	0	0	0	0	0
2A86	⪆	0	0	0	0	0	0	0	3	0	0	0	0	0
2A87	⪇	9	4	0	2	0	0	0	0	0	0	0	0	0
2A88	⪈	0	0	0	0	1	0	0	0	0	0	0	0	0
2A8B	⪋	0	0	0	0	0	0	0	0	0	0	0	0	0

Ucode	Op	53	54	55	57	58	60	62	65	68	70	74	76	78
2A8C	VMINV	0	0	0	0	0	0	0	0	0	0	0	0	0
2A95	VMAXV	0	0	0	0	0	0	0	0	0	0	0	0	0
2A96	VMINV	0	0	0	0	0	0	0	0	0	0	0	0	0
2AC5	UMAXV	0	0	1	0	0	0	0	0	0	0	0	0	0
2AC6	UMINV	0	0	2	0	0	0	0	0	0	0	0	0	0
2ACB	UMAXV	3	20	3	1	7	4	0	0	0	0	0	0	0
2ACC	UMINV	1	8	0	0	2	0	0	0	12	0	0	0	0
FE37	⌢	29	24	26	61	23	27	17	10	51	28	0	0	0
FE38	⌣	147	99	185	114	100	144	69	269	285	86	281	18	68

Ucode	Op	80	81	82	83	85	86	90	91	92	93	94	97
0021	!	6,051	2,868	1,545	544	1,062	259	1,372	675	2,568	452	1,250	0
0022	“	0	3,141	3,284	2,077	3,186	3,630	3,194	2,104	2,316	2,625	1,963	0
0023	#	0	1,320	672	532	0	0	793	1,945	884	177	2,047	0
0024	$	0	0	0	76	0	0	0	0	0	0	0	1,442
0025	%	0	3	15	0	0	86	147	238	273	157	42	180
0026	&	0	173	36	0	0	0	0	456	0	13	73	180
002A	∗	15,783	29,049	17,241	22,969	25,754	12,621	26,304	16,658	12,781	16,834	14,258	540
002B	+	77,526	83,407	82,175	87,343	54,606	101,404	80,442	109,282	103,935	86,737	95,802	135,749
002C	,	110,320	115,320	126,000	104,903	157,890	118,997	123,800	129,137	93,449	130,998	120,445	58,409
002D	−	138,861	125,542	134,826	95,641	71,156	125,999	105,650	137,337	165,483	105,514	117,173	125,473
002E	.	4,334	1,319	571	5,485	442	2,377	2,812	1,151	1,958	7,468	174	0
002F	/	14,638	16,270	26,477	15,773	31,153	10,244	20,424	18,782	25,689	11,774	29,714	27,402
003A	:	0	941	511	608	0	0	872	19	400	144	1,050	0
003C	<	13,002	9,376	16,597	14,683	15,045	19,018	14,602	18,842	16,908	11,688	9,625	2,343
003D	=	124,304	139,464	116,334	138,046	115,939	98,595	149,448	129,077	139,247	122,604	149,341	254,011
003E	>	12,185	9,366	16,739	18,206	19,824	27,750	14,896	16,221	19,329	15,436	9,698	5,228
005C	\	0	586	1,346	646	265	389	1,283	297	484	446	633	0
007C	|	1,226	98	9	443	0	0	0	0	0	0	0	0
00A3	£	0	10	0	0	0	0	0	0	0	0	0	0
00A7	§	0	340	26	177	0	0	0	0	0	301	63	0
00A9	©	81	0	0	0	0	0	0	0	0	0	0	0
00AC	≠	0	12	83	0	0	0	9	79	0	0	168	0
00AF	¯	2,208	15,174	12,795	29,177	10,797	864	4,047	3,812	3,684	9,496	4,896	180
00B1	±	4,252	5,421	3,017	4,903	4,867	3,328	803	1,111	1,263	1,076	1,704	1,802
00B6	¶	0	157	347	0	0	0	0	0	0	0	0	0
00D7	×	8,668	6,669	4,652	15,912	23,984	5,835	7,987	2,521	8,022	8,860	6,406	4,506
00F7	÷	0	0	0	0	0	0	205	0	63	6	0	0
0127	ħ	8,505	2,913	64	278	0	0	0	0	0	0	0	0
0131	ı	0	10	0	0	0	0	0	0	0	505	0	0
0141	Ł	0	80	55	0	0	0	9	0	0	6	0	0
0142	ł	0	178	694	0	0	0	362	0	0	0	0	0
0152	Œ	0	0	0	0	0	0	0	0	0	0	0	0
02B9	′	0	65	0	76	0	0	0	0	21	0	5	0
02C6	ˆ	7,196	13,205	10,079	11,681	17,346	7,693	9,594	10,979	7,011	12,030	12,807	4,687
02C7	ˇ	0	957	89	2,521	0	0	382	0	0	367	47	0
02C9	¯	7,441	8,019	8,129	8,349	16,373	15,215	9,192	3,951	2,505	13,861	7,187	0
02CB	`	0	42	0	0	0	0	0	0	0	0	0	0
02D8	˘	0	522	149	5,333	0	0	19	893	0	32	0	0
02DA	˚	0	0	0	1,254	0	0	0	0	0	0	0	0
02DC	˜	29,031	20,803	14,329	19,536	21,948	13,313	8,232	4,268	10,528	15,777	8,522	19,109
2011	−−	0	0	0	0	0	0	0	0	0	0	0	0
2016	‖	2,780	244	151	0	0	0	0	0	0	0	0	0
2020	†	0	1,076	366	1,672	0	0	117	1,429	0	91	237	0
2021	‡	0	47	3	0	0	0	19	0	0	39	10	0
2026	…	3,352	8,654	7,157	4,358	3,451	389	17,062	8,775	11,054	11,229	16,073	1,622
2032	′	10,058	4,174	5,875	8,146	0	1,685	1,930	9,312	6,127	3,379	2,870	0
2035	‵	0	0	0	0	0	0	0	0	0	0	0	0
2061		135,754	92,664	109,076	94,628	99,389	138,794	130,416	112,419	125,939	131,681	121,590	186,226
20D7	→	0	636	3,344	101	21,152	605	441	5,082	0	308	532	0
2102	ℂ	0	1,430	113	0	0	0	68	0	0	39	205	0
210D	ℍ	0	52	77	0	0	0	0	0	0	0	0	0
210F	ℏ	0	17	0	0	0	0	0	0	0	0	0	0
2111	ℑ	0	119	138	76	0	86	0	0	0	13	5	0
2113	ℓ	10,958	7,778	10,714	2,432	34,250	1,123	4,155	6,274	22,235	6,654	7,466	0
2115	ℕ	0	46	162	0	0	0	0	59	0	13	358	0
2118	℘	0	362	236	0	0	0	0	0	0	0	0	0
2119	ℙ	0	43	636	0	0	129	39	79	0	177	121	0
211A	ℚ	0	129	3	0	0	0	0	0	0	0	284	0
211C	ℜ	0	41	168	468	0	0	490	79	0	354	5	0
211D	ℝ	0	918	735	88	0	605	891	953	694	977	21	0
2124	ℤ	0	525	498	0	0	129	0	0	0	0	4,364	0
2127	℧	0	0	0	0	0	0	0	0	0	0	0	0
2135	ℵ	0	16	6	456	0	0	0	0	0	72	0	0
2136	ℶ	0	0	0	0	0	0	0	0	0	0	0	0

Ucode	Op	80	81	82	83	85	86	90	91	92	93	94	97
2137	⌋	0	0	0	0	0	0	0	0	0	0	0	0
2138	⌝	0	0	0	0	0	0	0	0	0	0	0	0
2190	←	81	400	243	405	0	0	1,215	0	0	196	142	0
2191	↑	163	231	734	12	0	43	254	575	21	13	94	0
2192	→	10,876	14,903	13,306	23,438	40,357	13,140	10,780	10,106	11,138	14,766	10,923	17,126
2193	↓	899	337	1,051	278	0	86	392	119	421	144	369	0
2194	↔	0	66	206	63	0	0	78	0	0	0	47	0
2196	↖	0	3	0	0	0	0	0	0	21	0	0	0
2197	↗	0	29	221	0	0	0	39	119	63	26	15	0
2198	↘	0	38	176	63	0	0	9	79	42	39	10	0
2199	↙	0	4	1	0	0	0	0	0	126	6	0	0
219B	↛	0	0	0	0	0	0	0	0	0	0	0	0
219E	↞	0	9	0	0	0	0	0	0	0	0	0	0
21A0	↠	0	43	3	0	0	0	0	0	0	39	0	0
21A2	↢	0	0	0	0	0	0	0	0	0	0	0	0
21A3	↣	0	0	0	0	0	0	0	0	0	0	0	0
21A6	↦	2,371	2,728	1,544	2,305	442	778	1,489	1,012	947	2,598	1,873	0
21A9	↩	0	9	0	101	0	0	0	0	0	0	0	0
21AA	↪	0	341	121	1,152	0	43	29	0	0	13	63	0
21AB	↫	0	2	0	0	0	0	0	0	0	0	0	0
21AC	↬	0	0	0	0	0	0	0	0	0	0	0	0
21AD	↭	0	2	7	0	0	0	0	0	0	0	0	0
21AE	↮	0	0	17	0	0	0	0	0	0	0	0	0
21B0	↰	0	0	0	0	0	0	0	0	0	0	0	0
21B1	↱	0	0	0	0	0	0	0	0	0	0	0	0
21B6	↶	0	3	0	0	0	0	0	0	0	0	0	0
21B7	↷	0	0	0	0	0	0	98	198	0	65	0	0
21BA	↺	0	0	0	0	0	0	0	0	0	0	0	0
21BB	↻	0	4	0	0	0	0	0	0	0	0	0	0
21BC	⇀	0	140	0	0	0	0	0	0	0	0	0	0
21BD	↽	0	14	0	0	0	0	0	0	0	0	0	0
21BE	↾	0	73	47	0	0	0	0	0	0	0	94	0
21BF	↿	0	0	0	0	0	0	0	0	0	0	0	0
21C0	⇀	0	112	39	38	0	129	0	0	0	0	42	0
21C1	⇁	0	0	0	0	0	0	0	0	0	0	0	0
21C4	⇄	0	0	0	0	0	0	0	0	0	0	0	0
21C5	⇅	0	1	12	0	0	0	0	0	0	0	0	0
21C6	⇆	0	136	918	25	177	0	19	19	105	32	153	0
21C7	⇇	0	0	0	0	0	0	0	0	0	0	0	0
21C9	⇉	0	8	25	0	0	0	0	0	0	242	100	0
21CA	⇊	0	0	0	0	0	0	0	0	0	0	0	0
21CB	⇋	0	0	0	0	0	0	0	0	0	0	0	0
21CC	⇌	0	4	0	0	0	0	0	0	42	0	0	0
21CE	⇎	0	0	0	0	0	0	0	0	0	0	0	0
21CF	⇏	0	2	0	0	0	0	0	0	0	0	0	0
21D0	⇐	0	16	6	0	0	0	0	19	0	39	63	0
21D1	⇑	0	0	0	0	0	0	0	0	0	0	0	0
21D2	⇒	327	419	435	354	0	0	823	1,032	547	715	696	721
21D3	⇓	0	4	0	0	0	0	19	0	42	13	0	0
21D4	⇔	408	200	146	494	0	0	431	337	589	761	717	180
21D5	⇕	0	0	6	0	0	0	19	0	0	0	0	0
21DA	⇐	0	0	0	0	0	0	0	0	0	0	0	0
21DD	⇝	0	55	132	0	0	0	0	0	0	13	26	0
21E0	⇠	0	0	0	0	0	0	0	0	0	0	0	0
21E2	⇢	0	0	0	0	0	0	0	0	0	0	0	0
2200	∀	981	1,321	1,473	2,039	2,920	302	1,960	1,409	779	4,928	1,018	360
2201	∁	0	14	23	0	0	0	0	0	0	0	0	0
2202	∂	13,984	13,091	7,044	34,853	4,425	10,157	5,909	3,931	7,643	16,453	1,240	9,374
2203	∃	163	98	353	443	354	43	284	416	42	945	205	0
2204	∄	0	0	12	0	0	0	0	0	0	0	0	0
2205	∅	490	531	1,588	392	1,593	86	1,323	496	442	564	2,110	0
2207	∇	1,308	4,752	1,820	18,890	5,752	22,606	1,920	119	2,126	1,253	828	0
2208	∈	32,384	38,178	40,757	43,760	63,633	61,551	57,019	41,695	28,847	53,554	47,576	7,571
2209	∉	736	528	975	570	1,239	3,501	1,499	774	1,200	997	701	0

Ucode	Op	80	81	82	83	85	86	90	91	92	93	94	97
220B	$\ni$	0	291	325	354	0	302	58	99	0	249	126	0
220F	$\prod$	736	1,849	3,066	114	0	475	1,617	694	1,326	616	2,812	8,833
2210	$\coprod$	0	272	203	215	0	0	0	0	0	0	84	0
2211	$\sum$	18,400	14,513	18,706	8,830	11,062	3,933	16,700	9,153	16,613	11,944	18,142	7,391
2214	$\dot{+}$	0	0	0	0	0	0	0	0	0	0	0	0
2216	$\setminus$	81	915	2,693	1,089	8,673	907	1,372	933	758	2,644	1,915	0
2218	$\circ$	9,322	7,521	2,497	6,157	2,566	475	3,273	1,886	1,495	2,717	1,815	2,704
2219	$\bullet$	654	1,751	982	874	4,513	0	284	19	231	144	707	1,081
221A	$\surd$	0	4	18	190	0	0	0	0	0	0	0	0
221D	$\propto$	0	7	22	0	0	0	19	19	0	6	58	0
221E	∞	18,645	14,562	20,744	10,997	11,593	21,396	8,448	24,163	12,465	15,167	11,677	5,768
2220	$\angle$	0	1	0	0	0	0	127	0	0	0	0	360
2221	$\measuredangle$	0	0	0	0	0	0	0	0	0	0	0	0
2222	$\sphericalangle$	0	0	0	12	0	0	0	0	0	0	0	0
2223	$\mid$	19,954	7,416	8,244	9,198	5,133	4,495	6,203	14,831	24,467	13,736	11,276	2,343
2224	$\nmid$	0	6	1	0	0	0	0	0	0	0	100	0
2225	$\parallel$	3,516	537	211	620	442	1,383	333	119	147	2,684	1,857	0
2226	$\nparallel$	0	0	0	0	0	0	0	0	0	0	0	0
2227	$\wedge$	1,962	4,457	1,116	6,170	3,451	821	1,519	1,588	568	925	828	0
2228	$\vee$	0	2,309	1,253	646	708	518	725	1,369	273	630	612	0
2229	$\cap$	5,233	2,067	4,629	3,674	8,142	2,939	5,988	4,546	4,358	3,642	7,973	360
222A	$\cup$	981	1,380	3,130	1,583	1,327	1,728	4,576	1,945	2,358	1,778	6,047	3,966
222B	$\int$	19,708	6,664	10,351	9,045	7,699	27,836	5,125	13,620	4,969	9,969	6,073	28,483
222C	$\iint$	81	20	63	0	0	0	0	0	0	0	36	0
222D	$\iiint$	0	0	1	0	0	0	0	0	0	0	0	0
222E	$\oint$	0	124	110	836	265	43	0	0	21	0	63	0
2234	$\therefore$	0	0	0	0	0	0	0	0	0	0	0	0
2235	$\because$	0	0	0	0	0	0	0	0	0	0	0	0
223C	$\sim$	408	934	1,716	1,165	619	216	450	972	1,179	341	2,200	901
223D	$\backsim$	0	0	0	0	0	0	0	0	0	0	0	0
2240	$\wr$	0	5	3	0	0	0	0	0	0	0	0	0
2241	$\nsim$	0	20	1	0	0	0	0	0	0	26	10	0
2243	$\simeq$	0	680	301	557	88	0	9	39	126	137	290	0
2244	$\not\simeq$	0	1	0	0	0	0	0	0	0	0	0	0
2245	$\cong$	81	1,447	157	2,723	0	0	0	158	0	479	807	0
2247	$\ncong$	0	7	0	25	0	0	0	0	0	0	5	0
2248	$\approx$	81	120	614	506	0	302	499	377	547	196	875	3,785
2249	$\not\approx$	0	0	0	0	0	0	0	0	0	0	0	0
224A	$\approxeq$	0	0	0	0	0	0	0	0	0	0	0	0
224D	$\asymp$	654	1,691	1,785	2,483	1,947	259	1,822	4,308	568	1,988	4,358	2,884
224F	Δ	0	0	0	0	0	0	0	0	0	0	0	0
2250	$\doteq$	0	68	222	101	0	0	0	436	0	1,135	142	0
2251	$\div$	0	0	0	506	0	0	0	0	0	0	0	0
2252	$\Doteq$	0	0	0	0	0	0	0	0	0	0	0	0
2257	$\circeq$	0	0	0	12	0	0	0	0	0	0	0	0
225C	$\triangleq$	0	0	75	0	0	0	0	0	0	85	1,435	0
2260	$\neq$	5,152	3,732	3,716	3,661	4,779	864	3,694	1,886	3,326	4,836	4,960	4,867
2262	$\not\equiv$	0	31	99	76	0	43	9	59	42	13	453	0
2264	$\leq$	23,225	16,152	31,995	10,604	15,045	50,745	34,272	39,908	34,048	25,963	25,672	12,619
2265	$\geq$	5,724	7,588	17,820	6,220	6,283	17,808	23,011	16,936	21,077	10,796	13,223	1,442
2266	$\leqq$	0	7	9	0	0	0	0	0	0	0	5	0
2267	$\geqq$	0	6	1	0	0	0	0	0	0	0	0	0
2268	$\lneqq$	0	0	0	0	0	0	0	0	0	0	0	0
2269	$\gneqq$	0	0	0	0	0	0	0	0	0	0	0	0
226A	$\ll$	1,063	95	407	25	0	0	186	258	210	262	137	0
226B	$\gg$	163	90	222	25	0	172	205	0	21	13	137	0
226D	$\not\asymp$	0	0	0	0	0	0	0	0	0	0	21	0
226E	$\not<$	0	14	0	0	0	0	0	59	0	0	0	0
226F	$\not>$	0	14	0	0	0	0	0	0	0	0	0	0
2270	$\not\leq$	0	26	3	0	0	0	58	39	0	26	0	0
2271	$\not\geq$	0	1	0	0	0	0	19	0	0	0	0	0
2272	$\lesssim$	0	123	29	0	0	0	0	0	0	0	226	0
2273	$\gtrsim$	0	1	12	0	0	0	0	0	0	0	31	0
2276	$\lessgtr$	0	0	0	0	0	0	0	0	0	0	0	0

Ucode	Op	80	81	82	83	85	86	90	91	92	93	94	97
2277	≯	0	0	0	0	0	0	0	0	0	0	0	0
227A	≺	0	396	404	0	0	0	68	714	0	98	221	0
227B	≻	0	170	44	0	0	0	1,538	377	0	144	89	0
227C	≼	0	95	311	0	0	0	68	1,052	0	45	158	180
227D	≽	0	2	75	88	0	0	921	0	0	255	237	0
227E	≾	0	0	0	0	0	0	0	0	0	0	10	0
227F	≿	0	0	0	0	0	0	0	0	0	0	0	0
2280	⊀	0	0	0	0	0	0	0	0	0	0	10	0
2281	⊁	0	0	0	0	0	0	0	0	0	0	0	0
2282	⊂	2,371	3,950	3,882	5,523	10,354	2,939	4,880	1,449	2,779	4,620	3,514	360
2286	⊆	81	924	955	1,380	0	216	3,508	1,270	1,073	2,408	2,200	0
2289	⊉	0	1	0	0	0	0	0	0	0	0	0	0
228A	⊊	0	14	9	0	0	0	19	0	0	6	15	0
228B	⊋	0	2	3	0	0	0	0	0	0	0	0	0
228E	⊎	0	33	17	405	0	0	9	377	0	0	0	0
228F	⊏	0	6	0	0	0	0	0	0	0	0	0	0
2290	⊐	0	0	0	0	0	0	0	0	0	0	0	0
2291	⊑	0	12	0	0	0	0	58	0	0	0	0	0
2292	⊒	0	0	0	0	0	0	0	0	0	0	0	0
2293	⊓	0	176	0	0	0	0	0	158	0	0	0	0
2294	⊔	0	317	48	38	88	0	0	158	0	26	52	0
2295	⊕	0	3,590	606	4,244	1,150	43	715	1,508	1,789	958	2,691	0
2296	⊖	0	39	1	0	0	0	0	0	0	72	221	0
2297	⊗	10,549	32,616	6,658	13,188	1,239	216	2,009	218	294	3,878	1,598	0
2299	⊙	0	388	86	0	0	0	0	0	2,021	0	126	0
229B	⊛	0	221	0	0	0	0	0	0	0	0	0	0
229D	⊝	0	0	0	0	0	0	0	0	0	0	0	0
229E	⊞	0	4	0	0	0	0	0	655	0	0	717	0
229F	⊟	0	0	0	0	0	0	0	1,429	0	0	47	0
22A0	⊠	0	251	0	0	0	0	0	0	0	0	0	0
22A1	⊡	0	9	0	0	0	0	0	0	0	0	258	0
22A2	⊢	0	97	4	0	0	0	0	0	0	91	73	0
22A3	⊣	0	95	0	0	0	0	0	0	0	0	0	0
22A5	⊥	163	1,071	41	1,228	0	345	548	59	0	702	2,828	540
22A7	⊧	0	14	0	0	0	0	0	0	0	0	0	0
22A9	⊩	0	0	0	0	0	0	0	0	0	0	0	0
22AC	⊬	0	0	0	0	0	0	0	0	0	0	0	0
22AD	⊭	0	0	0	0	0	0	0	0	0	0	0	0
22B2	◁	0	30	15	0	0	0	0	953	0	0	0	0
22B3	▷	0	33	18	0	0	0	0	595	0	0	0	0
22B4	⊴	0	0	0	0	0	0	0	0	0	0	5	0
22B5	⊵	0	1	3	0	0	0	0	0	0	0	0	0
22B8	⊸	0	32	0	0	0	0	0	0	0	0	0	0
22BA	⊺	0	2	0	0	0	0	754	0	0	0	26	0
22BB	⊻	0	0	0	0	0	0	0	0	0	0	10	0
22BC	⊼	0	0	0	0	0	0	0	0	0	0	10	0
22C0	⋀	0	351	59	114	0	0	137	0	0	32	184	0
22C1	⋁	0	239	37	0	0	0	78	0	0	59	116	0
22C4	⋄	163	65	15	12	0	0	0	0	0	1,312	10	0
22C5	⋅	9,322	10,731	8,702	11,503	2,743	24,119	11,015	9,133	5,327	11,833	6,622	17,486
22C6	⋆	245	1,445	1,403	1,393	0	0	548	1,191	0	1,548	638	0
22C7	⋇	0	0	0	0	0	0	0	0	0	0	0	0
22C8	⋈	0	4	37	0	0	0	235	0	0	0	126	0
22C9	⋉	0	234	0	38	0	0	0	0	0	0	10	0
22CA	⋊	0	245	127	88	0	0	0	0	0	0	26	0
22CB	⋋	0	0	0	0	0	0	0	0	0	0	0	0
22CC	⋌	0	0	0	0	0	0	0	0	0	0	0	0
22CD	⋍	0	0	0	0	0	0	0	0	0	0	0	0
22CF	⋏	0	0	0	0	0	0	0	0	0	0	0	0
22D0	⋐	0	9	31	76	0	0	0	0	0	0	0	0
22D1	⋑	0	2	0	0	0	0	0	0	0	0	0	0
22D2	⋒	0	0	0	0	0	0	0	0	0	0	0	0
22D3	⋓	0	0	0	0	0	0	0	0	0	0	0	0
22D6	⋖	0	0	6	0	0	0	0	0	0	26	0	0

Ucode	Op	80	81	82	83	85	86	90	91	92	93	94	97
22D7	⋗	0	0	0	0	0	0	0	0	0	0	0	0
22D8	⋘	0	0	0	0	0	0	0	0	0	0	0	0
22D9	⋙	0	0	0	0	0	0	0	0	0	0	0	0
22DB	⋛	0	0	0	0	0	0	0	0	0	0	0	0
22DF	⋟	0	0	4	0	0	0	0	0	0	0	0	0
22E0	⋠	0	0	1	0	0	0	0	0	0	6	0	0
22E1	⋡	0	0	1	0	0	0	0	0	0	0	5	0
22E2	⋢	0	0	0	0	0	0	0	0	0	0	0	0
22E6	⋦	0	0	0	0	0	0	0	0	0	0	0	0
22E8	⋨	0	0	0	0	0	0	0	0	0	0	0	0
22E9	⋩	0	9	0	0	0	0	0	0	0	0	0	0
22EB	⋫	0	0	0	0	0	0	0	0	0	0	0	0
22EC	⋬	0	0	0	0	0	0	0	0	0	0	0	0
22ED	⋭	0	0	0	0	0	0	0	0	0	0	0	0
22EE	⋮	0	192	94	25	0	0	245	297	147	774	981	5,408
22EF	⋯	899	10,887	9,391	3,104	2,389	1,512	9,300	9,728	8,464	14,248	12,896	19,289
22F1	⋱	0	111	52	12	0	0	107	0	42	105	364	0
2308	⌈	0	24	168	0	0	0	499	675	863	170	606	0
2309	⌉	0	9	149	0	0	0	499	675	863	308	585	0
230A	⌊	0	376	833	25	0	0	1,293	2,303	1,663	144	1,150	0
230B	⌋	0	466	835	291	0	0	1,293	2,303	1,663	144	1,171	0
2310	⌐	0	0	0	0	0	0	0	0	0	0	0	0
231C	⌜	0	9	0	0	0	0	0	0	0	0	0	0
231D	⌝	0	9	0	0	0	0	0	0	0	0	364	0
231E	⌞	0	0	0	557	0	0	0	0	0	0	0	0
231F	⌟	0	9	0	190	0	0	0	0	0	6	0	0
2322	⌢	0	0	0	0	0	0	0	0	0	105	0	0
2323	⌣	0	11	0	12	0	0	0	0	0	0	0	0
2329	〈	12,021	6,373	4,861	5,181	8,230	3,025	3,577	1,568	315	3,104	3,160	721
232A	〉	13,493	7,370	5,106	5,181	8,142	3,025	3,577	1,548	315	3,104	3,166	721
23D4	⏃	0	0	0	0	0	0	0	0	0	0	0	0
25A0	■	0	161	107	950	0	0	196	0	0	0	226	0
25A1	■	0	766	268	0	0	0	480	39	442	341	226	1,261
25AA	□	0	0	0	0	0	0	0	0	0	0	0	0
25AB	□	0	553	671	1,887	0	0	607	218	589	229	770	0
25B2	▲	0	0	0	0	0	0	0	0	0	0	31	0
25B3	△	0	222	219	608	0	3,025	480	1,270	21	387	279	1,442
25B6	▶	0	60	0	0	0	0	0	0	0	0	0	0
25BB	▷	1,144	731	22	0	0	0	98	0	0	0	0	0
25BC	▼	0	0	0	0	0	0	0	0	0	0	0	0
25BD	▽	0	227	1	3,230	0	0	735	59	42	0	0	0
25C0	◀	0	91	0	0	0	0	0	0	0	0	21	0
25C5	◁	0	558	28	0	0	0	0	0	0	242	0	0
25CA	◊	0	4	6	0	0	0	0	0	0	0	10	0
25EF	◯	0	17	0	0	0	0	0	0	0	0	0	0
2605	★	0	19	0	0	0	0	0	0	0	0	21	0
2660	♠	0	7	0	0	0	0	0	0	0	0	10	0
2663	♣	0	0	4	0	0	0	0	0	0	0	0	0
2665	♡	0	6	0	0	0	0	0	0	0	0	15	0
2666	♢	0	302	11	38	0	0	137	0	0	807	58	0
266D	♭	0	95	192	63	0	0	0	0	0	1,470	759	0
266E	♮	0	173	205	88	0	0	0	0	0	656	543	0
266F	♯	0	560	172	38	0	0	117	0	0	1,082	300	0
2A0C	⨌	0	0	0	0	0	0	0	0	0	0	0	0
2A7D	⩽	0	418	1,913	215	0	0	460	39	0	1,562	2,311	0
2A7E	⩾	0	131	920	88	0	0	0	39	0	446	548	0
2A85	⪅	0	0	0	0	0	0	0	0	0	0	0	0
2A86	⪆	0	0	0	0	0	0	0	0	0	0	0	0
2A87	⪇	0	0	0	0	0	0	0	0	0	0	0	0
2A88	⪈	0	0	0	0	0	0	0	0	0	0	0	0
2A8B	⪋	0	0	0	0	0	0	0	0	0	0	0	0

Ucode	Op	80	81	82	83	85	86	90	91	92	93	94	97
2A8C	$\land\lor$	0	0	0	0	0	0	0	0	0	0	0	0
2A95	$\leqslant$	0	0	0	0	0	0	0	0	0	0	0	0
2A96	$\geqslant$	0	0	0	0	0	0	0	0	0	0	0	0
2AC5	$\subseteq$	0	0	0	0	0	0	0	0	0	0	0	0
2AC6	$\supseteq$	0	0	0	0	0	0	0	0	0	0	0	0
2ACB	$\subsetneq$	0	9	1	0	0	0	0	19	0	0	89	0
2ACC	$\supsetneq$	0	8	0	0	0	0	0	59	0	0	0	0
FE37	$\overbrace{\ }$	0	28	61	0	0	0	19	0	0	0	73	360
FE38	$\underbrace{\ }$	0	183	116	12	0	86	137	19	0	118	290	0

Appendix D

Significant Identifiers and Operators

Notes:

- Frequency of each identifier and operator per million instances.
- "Raw" statistics include all identifiers or operators in the subject classification.
- "Sig." statistics have the top 20 identifiers or operators overall removed.
- List of popular identifiers and operators overall can be found in figure 6.2.
- Unicode 2061, 2062 and 2063 are invisible operators. TeX does not have any of these invisible operators. These invisible operators result from the TEX to MathML conversion.
  - 2061 – Function application
  - 2062 – Invisible times
  - 2063 – Invisible separator

D.1 Identifiers

00 (Raw)			00 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	109,882	0050	P	26,492
0078	x	58,200	0065	e	25,971
006B	k	37,235	0079	y	21,538
006D	m	36,818	0057	W	21,121
0069	i	34,106	0042	B	20,704
03B1	α	29,726	004C	L	20,547
0064	d	28,265	03B8	ϑ	18,930
0050	P	26,492	007A	z	17,157
0073	s	26,284	0077	w	16,792
0065	e	25,971	0045	E	15,645
0079	y	21,538	0068	h	15,488
0057	W	21,121	006C	l	15,332
0042	B	20,704	0056	V	14,758
004C	L	20,547	0052	R	13,872
03B8	ϑ	18,930	004E	N	13,715
0041	A	18,670	0051	Q	13,663
0070	p	18,409	0062	b	11,525
0053	S	17,992	0071	q	10,638
007A	z	17,157	03C0	π	9,752
0077	w	16,792	0063	c	9,647

01 (Raw)			01 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0078	x	105,258	0079	y	34,209
006E	n	54,140	03BB	λ	23,210
0074	t	44,012	0062	b	19,128
0079	y	34,209	0077	w	18,821
0061	a	30,896	0067	g	18,565
0066	f	29,820	007A	z	16,635
006B	k	23,757	0063	c	16,464
03BB	λ	23,210	0054	T	15,542
0070	p	21,895	0050	P	15,268
0069	i	20,050	0071	q	14,158
0043	C	19,504	0075	u	13,372
0062	b	19,128	0056	V	12,689
0077	w	18,821	03B2	β	10,332
0067	g	18,565	004C	L	9,683
006D	m	18,155	03B5	ϵ	9,342
0041	A	17,318	0048	H	9,222
007A	z	16,635	0046	F	9,171
0063	c	16,464	0068	h	9,154
0072	r	15,729	0049	I	9,000
004D	M	15,610	0052	R	8,983

03 (Raw)			03 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0069	i	51,565	03C9	ω	18,015
006E	n	48,239	0046	F	16,773
0078	x	41,042	0079	y	16,764
0058	X	33,862	0054	T	15,605
0041	A	29,845	0062	b	15,270
0070	p	26,292	004B	K	15,144
03B1	α	24,604	0042	B	15,002
006B	k	24,374	0063	c	14,586
0066	f	22,671	0050	P	14,582
0061	a	22,030	03BA	κ	13,285
0047	G	21,983	004C	L	13,280
006D	m	19,893	0056	V	12,004
006A	j	18,062	0055	U	11,916
03C9	ω	18,015	0048	H	11,452
004D	M	17,256	0071	q	11,385
0053	S	17,122	03B2	β	11,305
0043	C	17,107	0068	h	10,369
0046	F	16,773	03B3	γ	10,196
0079	y	16,764	0067	g	10,104
0074	t	15,693	0059	Y	9,918

05 (Raw)			05 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	82,791	0071	q	24,663
0069	i	62,421	0062	b	17,860
006B	k	46,461	03BB	λ	17,126
0078	x	40,264	0076	v	16,218
006A	j	33,399	0050	P	15,475
0061	a	26,377	0063	c	14,053
006D	m	26,007	0042	B	13,286
0071	q	24,663	0079	y	13,274
0074	t	24,432	0054	T	13,141
0072	r	23,921	0065	e	12,308
0070	p	21,758	0046	F	12,212
0041	A	19,907	0075	u	11,562
0064	d	19,513	007A	z	10,753
0047	G	19,232	0077	w	10,298
0073	s	18,566	03C3	σ	9,898
0062	b	17,860	004C	L	9,820
03BB	λ	17,126	0052	R	9,800
0053	S	16,680	03BC	μ	9,751
0076	v	16,218	0048	H	9,388
0050	P	15,475	006C	l	9,252

06 (Raw)			06 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	54,630	0079	y	29,262
0078	x	53,286	0062	b	24,084
0069	i	50,978	0050	P	23,008
0061	a	40,996	004C	L	20,001
006B	k	30,762	0076	v	17,999
0079	y	29,262	0075	u	16,930
0070	p	28,517	0046	F	16,810
0041	A	28,252	0063	c	16,091
0053	S	26,414	0042	B	14,075
0062	b	24,084	0071	q	13,656
0050	P	23,008	0049	I	13,048
006A	j	20,944	0077	w	11,928
004C	L	20,001	0067	g	10,762
0066	f	19,564	0048	H	10,640
0076	v	17,999	0054	T	10,280
0075	u	16,930	0394	Δ	10,197
0046	F	16,810	0065	e	9,693
0074	t	16,202	007A	z	9,541
0063	c	16,091	0052	R	9,437
006D	m	16,087	03C3	σ	8,771

08 (Raw)			08 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	62,909	0056	V	22,506
0041	A	54,208	0062	b	19,488
0061	a	42,054	0042	B	19,030
0069	i	41,319	0057	W	18,962
0078	x	40,508	0055	U	18,947
0066	f	34,397	0079	y	18,947
0058	X	29,998	0067	g	17,754
0047	G	25,531	0048	H	17,048
006B	k	23,932	0054	T	15,472
0056	V	22,506	0075	u	13,189
0062	b	19,488	0044	D	11,598
0042	B	19,030	004B	K	11,538
0057	W	18,962	0076	v	10,900
0055	U	18,947	03B2	β	10,052
0079	y	18,947	0071	q	9,976
004D	M	18,662	0050	P	9,669
03B1	α	18,047	007A	z	9,541
006D	m	17,754	0077	w	9,391
0067	g	17,754	0063	c	9,368
0070	p	17,649	03BB	λ	8,903

11 (Raw)			11 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	58,186	0071	q	21,797
0070	p	40,302	004B	K	18,905
006B	k	38,230	0046	F	16,524
0078	x	35,294	004C	L	15,921
0069	i	35,100	004E	N	15,537
0061	a	25,301	0076	v	14,380
006D	m	23,642	0054	T	14,126
0064	d	22,302	0067	g	13,683
0071	q	21,797	0050	P	13,479
0073	s	21,319	007A	z	13,333
006A	j	21,153	0079	y	12,880
0072	r	19,695	0063	c	12,383
0074	t	19,654	0048	H	12,238
0047	G	19,620	0044	D	12,056
0058	X	19,535	0062	b	11,867
0041	A	19,107	0045	E	11,714
004B	K	18,905	03C0	π	11,348
0066	f	18,126	0068	h	10,550
0046	F	16,524	0042	B	10,309
004C	L	15,921	0075	u	10,291

12 (Raw)			12 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	50,722	004B	K	34,060
0078	x	49,011	0046	F	22,303
0069	i	45,470	0048	H	19,489
004B	K	34,060	0071	q	18,143
006B	k	30,238	0079	y	17,991
0070	p	29,441	0054	T	17,461
0061	a	27,348	007A	z	16,246
0041	A	26,230	004C	L	14,861
0066	f	22,901	0050	P	14,482
0047	G	22,608	0063	c	13,171
0046	F	22,303	004E	N	12,525
0058	X	21,874	0062	b	12,499
0072	r	20,139	0076	v	11,809
006A	j	20,116	0056	V	11,684
004D	M	19,977	0067	g	11,627
0074	t	19,622	0045	E	10,652
0048	H	19,489	006C	l	10,621
006D	m	18,151	0042	B	10,372
0071	q	18,143	0044	D	9,811
0079	y	17,991	0065	e	9,591

13 (Raw)			13 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0069	i	54,512	0052	R	41,019
006E	n	47,991	0049	I	31,298
0052	R	41,019	0048	H	15,646
0078	x	35,823	0046	F	15,233
0041	A	33,397	0050	P	14,296
0049	I	31,298	0079	y	13,933
006B	k	29,664	0071	q	13,879
006D	m	26,611	0054	T	13,766
0064	d	25,894	004B	K	13,619
004D	M	24,683	0044	D	13,164
0061	a	24,600	0065	e	12,512
0074	t	23,459	0063	c	12,436
0058	X	23,401	0042	B	11,314
006A	j	22,494	004C	L	11,144
0070	p	21,899	0056	V	11,143
0066	f	21,125	0045	E	11,123
0053	S	20,849	0062	b	10,988
0072	r	20,283	004E	N	10,568
0043	C	15,708	0075	u	10,295
0048	H	15,646	0067	g	10,253

14 (Raw)			14 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0069	i	47,977	0048	H	19,201
0058	X	41,710	0045	E	18,051
006E	n	39,798	0046	F	17,051
006B	k	28,545	0050	P	16,183
0078	x	26,603	004C	L	15,611
0070	p	25,155	0044	D	15,558
0064	d	21,690	0056	V	14,539
006D	m	20,628	0059	Y	14,532
0043	C	20,535	0067	g	14,459
0041	A	20,381	004B	K	13,649
0053	S	20,198	0054	T	12,801
006A	j	19,761	0071	q	12,663
0072	r	19,591	0052	R	12,437
0074	t	19,367	0042	B	11,649
0061	a	19,235	0063	c	11,635
0048	H	19,201	0079	y	11,058
0047	G	18,560	004E	N	11,041
0066	f	18,560	0062	b	11,012
0045	E	18,051	0049	I	10,940
0046	F	17,051	007A	z	10,900

15 (Raw)			15 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	58,160	0042	B	23,440
0069	i	56,491	004E	N	22,522
0041	A	50,503	0050	P	15,790
006B	k	40,290	0071	q	14,679
0078	x	34,975	03BB	λ	14,325
006A	j	34,674	0062	b	14,012
0061	a	31,573	007A	z	13,909
0072	r	27,780	0049	I	13,871
006D	m	24,118	0065	e	12,656
0042	B	23,440	0063	c	12,332
004E	N	22,522	0079	y	11,884
0074	t	21,554	0054	T	11,740
0070	p	21,511	03BC	μ	11,328
0064	d	18,830	0076	v	10,736
0043	C	18,543	006C	l	10,501
0053	S	16,933	0075	u	10,297
0058	X	16,393	0056	V	10,187
0073	s	15,993	03C3	σ	10,180
0050	P	15,790	0046	F	9,651
0066	f	15,660	03C0	π	9,581

16 (Raw)			16 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0069	i	50,494	0048	H	23,736
0041	A	49,242	0052	R	23,701
006E	n	43,319	0042	B	17,746
0078	x	31,920	0067	g	15,935
006B	k	31,220	0062	b	15,153
0061	a	28,544	0056	V	14,352
004D	M	25,988	0071	q	13,935
0048	H	23,736	0054	T	13,137
0052	R	23,701	0065	e	13,103
0043	C	22,654	0046	F	13,058
006A	j	22,640	0079	y	12,410
0058	X	20,462	0063	c	12,356
0070	p	20,186	004C	L	12,067
0074	t	19,831	0044	D	11,662
0053	S	19,541	004E	N	11,417
006D	m	19,460	0050	P	11,220
0042	B	17,746	0045	E	11,174
03B1	α	17,023	0068	h	11,001
0066	f	16,583	0076	v	10,508
0072	r	16,394	0075	u	10,457

17 (Raw)			17 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0069	i	61,513	0071	q	24,345
006E	n	43,925	03BB	λ	19,260
006B	k	33,828	0067	g	18,944
0061	a	33,182	0065	e	18,781
006A	j	30,250	0056	V	18,037
0078	x	28,157	004C	L	17,076
0071	q	24,345	0062	b	16,412
0041	A	24,327	0076	v	14,976
006D	m	23,670	0075	u	14,410
03B1	α	20,102	006C	l	14,241
0072	r	19,470	007A	z	14,237
0070	p	19,416	0068	h	12,568
03BB	λ	19,260	0055	U	12,293
0067	g	18,944	0042	B	11,849
0065	e	18,781	0077	w	11,603
0073	s	18,604	0063	c	11,519
0056	V	18,037	0052	R	11,226
0074	t	17,479	0045	E	11,207
004C	L	17,076	004E	N	11,174
0062	b	16,412	0079	y	10,953

18 (Raw)			18 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0041	A	48,555	0046	F	21,916
0069	i	44,070	0052	R	18,088
006E	n	41,926	0042	B	17,756
0058	X	37,634	0048	H	16,386
0043	C	29,275	0054	T	15,903
004D	M	27,063	0067	g	14,663
0078	x	26,590	0050	P	14,550
0066	f	25,201	0056	V	14,370
0047	G	24,960	0044	D	13,789
006B	k	24,137	004B	K	13,388
0046	F	21,916	0045	E	13,302
0070	p	21,329	004C	L	13,284
0053	S	20,667	0059	Y	12,673
0061	a	19,366	0055	U	11,947
006A	j	18,857	0079	y	11,590
0052	R	18,088	0062	b	11,304
0042	B	17,756	0071	q	10,677
006D	m	17,110	0049	I	10,612
0048	H	16,386	0063	c	10,076
0064	d	16,137	004E	N	9,896

19 (Raw)			19 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	55,936	004B	K	28,561
0069	i	39,716	0048	H	22,204
0041	A	37,080	0042	B	19,115
0047	G	36,588	0045	E	18,085
0058	X	33,733	0046	F	17,781
004B	K	28,561	0052	R	16,592
006B	k	27,876	0054	T	14,911
0070	p	26,360	0044	D	14,296
0043	C	26,348	0050	P	12,960
0048	H	22,204	0067	g	12,709
004D	M	21,677	0071	q	11,521
0078	x	21,572	0065	e	11,318
0074	t	20,016	0059	Y	11,257
0061	a	19,924	0056	V	11,108
0053	S	19,573	004C	L	11,097
0042	B	19,115	0063	c	10,869
0045	E	18,085	0062	b	10,522
0066	f	17,944	004E	N	10,461
0046	F	17,781	0076	v	10,396
0052	R	16,592	0055	U	9,863

20 (Raw)			20 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0069	i	48,455	0071	q	17,880
006E	n	47,242	0048	H	17,583
0047	G	34,953	0067	g	16,802
0078	x	33,714	0076	v	15,572
006B	k	30,079	03BB	λ	14,956
0061	a	25,077	004C	L	14,631
0070	p	22,702	0050	P	13,982
0041	A	22,007	0079	y	13,818
0058	X	21,662	0077	w	13,778
006A	j	21,451	0042	B	13,730
0074	t	20,304	0046	F	13,693
0073	s	19,530	0062	b	13,624
006D	m	19,269	0054	T	13,533
0053	S	18,849	0065	e	12,787
0071	q	17,880	0052	R	12,725
0048	H	17,583	0063	c	12,659
0072	r	17,352	0075	u	12,590
0067	g	16,802	0056	V	12,084
03B1	α	16,777	004B	K	11,473
0076	v	15,572	004E	N	11,377

22 (Raw)			22 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0047	G	40,585	0067	g	23,066
006E	n	33,909	03BB	λ	19,354
0069	i	31,489	0048	H	18,763
0078	x	29,324	004C	L	17,098
0058	X	23,580	0065	e	15,665
0067	g	23,066	0050	P	15,353
006B	k	22,263	0056	V	15,009
0041	A	20,969	03C0	π	14,571
0061	a	20,724	0054	T	13,430
0070	p	20,670	0046	F	13,101
03BB	λ	19,354	0075	u	12,920
0073	s	19,174	004B	K	12,895
0048	H	18,763	007A	z	12,511
004D	M	18,451	0076	v	12,257
0074	t	18,170	0055	U	12,246
03B1	α	17,341	0071	q	11,915
0066	f	17,262	004E	N	11,751
004C	L	17,098	0042	B	11,468
0064	d	16,560	0057	W	10,851
0043	C	16,013	0063	c	10,382

26 (Raw)			26 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0078	x	72,272	0062	b	24,134
006E	n	61,469	0079	y	23,622
0069	i	58,157	007A	z	15,194
0066	f	42,923	03BB	λ	14,910
0061	a	34,718	0067	g	14,894
0074	t	34,389	0046	F	11,922
006B	k	32,335	0063	c	11,894
0070	p	28,457	0075	u	11,160
006D	m	28,012	0065	e	11,052
006A	j	24,787	03A9	Ω	10,909
0062	b	24,134	004C	L	10,771
0079	y	23,622	0050	P	10,393
0064	d	21,224	03BC	μ	9,798
03B1	α	20,143	03B5	ϵ	9,756
0073	s	18,558	0071	q	9,372
007A	z	15,194	0068	h	9,245
0041	A	15,133	0054	T	9,143
03BB	λ	14,910	0049	I	9,058
0067	g	14,894	03B3	γ	8,996
0058	X	14,559	0076	v	8,409

28 (Raw)			28 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	64,263	03BC	μ	22,012
0078	x	53,513	0054	T	18,250
006B	k	41,571	03BB	λ	16,806
0069	i	33,450	0042	B	15,837
0074	t	25,607	03B5	ϵ	15,802
006A	j	23,672	0079	y	14,996
0058	X	22,606	004E	N	14,164
0041	A	22,595	0067	g	14,067
03BC	μ	22,012	0046	F	13,920
0064	d	21,682	0052	R	12,067
0066	f	21,358	004B	K	11,864
0047	G	21,096	03B2	β	11,379
006D	m	20,630	0075	u	11,331
0072	r	19,698	03C9	ω	11,039
0061	a	18,590	004C	L	11,023
0054	T	18,250	007A	z	10,584
03BB	λ	16,806	0048	H	10,455
0070	p	15,934	03C3	σ	10,072
0042	B	15,837	0050	P	10,005
03B5	ϵ	15,802	0071	q	10,003

30 (Raw)			30 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	60,146	007A	z	53,614
007A	z	53,614	0067	g	17,508
0078	x	35,918	0079	y	14,939
006B	k	32,071	0050	P	14,626
0069	i	27,693	0077	w	14,579
0066	f	27,124	0075	u	13,805
0074	t	24,506	0065	e	13,775
006A	j	22,741	0044	D	13,169
006D	m	19,092	0052	R	13,124
0061	a	19,020	03B3	γ	12,779
0064	d	18,522	0068	h	12,591
0072	r	17,922	03C0	π	12,372
0067	g	17,508	03BB	λ	11,651
0053	S	16,516	0048	H	11,571
0041	A	15,606	0062	b	11,183
0070	p	15,465	004E	N	11,016
0079	y	14,939	0063	c	11,010
03B1	α	14,738	0046	F	10,721
0050	P	14,626	03BC	μ	10,533
0077	w	14,579	0076	v	10,450

31 (Raw)			31 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0078	x	58,993	007A	z	34,809
006E	n	40,412	0075	u	24,530
007A	z	34,809	03A9	Ω	23,175
0064	d	29,583	0044	D	22,534
006B	k	28,045	0079	y	21,633
0072	r	25,567	0068	h	19,304
0075	u	24,530	004B	K	14,864
006A	j	24,072	0077	w	13,441
0074	t	23,957	0042	B	13,374
0069	i	23,797	0051	Q	12,193
03A9	Ω	23,175	03B4	δ	11,831
0044	D	22,534	0052	R	11,542
0070	p	21,859	004C	L	10,958
0079	y	21,633	03BC	μ	10,934
0068	h	19,304	0050	P	10,910
0066	f	18,788	0071	q	10,688
03B1	α	18,229	03B8	ϑ	10,635
0041	A	16,214	0048	H	10,471
0043	C	16,146	03B5	ϵ	10,269
004B	K	14,864	0045	E	10,095

32 (Raw)			32 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	38,218	007A	z	27,203
0069	i	38,178	0048	H	15,994
006B	k	31,648	0044	D	15,761
0058	X	30,689	0067	g	15,065
0078	x	28,140	0075	u	14,322
007A	z	27,203	0046	F	14,006
006A	j	26,949	0054	T	13,768
0066	f	25,714	004C	L	13,683
0070	p	22,223	0045	E	12,932
0074	t	21,604	0079	y	12,444
004D	M	20,618	0071	q	12,360
0064	d	20,417	0050	P	12,294
006D	m	19,686	0056	V	11,870
0041	A	18,578	0068	h	11,760
0043	C	18,204	004E	N	11,366
0061	a	17,872	0063	c	11,362
0053	S	16,938	0055	U	10,884
0072	r	16,708	0065	e	10,458
0048	H	15,994	0076	v	10,294
0044	D	15,761	0077	w	10,208

33 (Raw)			33 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	73,739	0071	q	62,139
0071	q	62,139	007A	z	32,188
006B	k	50,122	0062	b	24,009
0078	x	48,183	03BB	λ	19,783
0069	i	46,733	0079	y	17,812
0061	a	42,289	0063	c	17,463
006A	j	36,562	0065	e	13,460
007A	z	32,188	0075	u	13,267
006D	m	27,263	006C	l	12,951
0074	t	26,911	004E	N	11,891
0062	b	24,009	03BC	μ	10,624
0073	s	21,162	0067	g	9,366
0072	r	20,157	004C	L	9,198
0070	p	19,997	03B2	β	8,989
03BB	λ	19,783	03C0	π	8,867
0064	d	17,969	0076	v	8,721
0079	y	17,812	03C4	τ	8,620
0063	c	17,463	0048	H	8,503
03B1	α	16,208	0068	h	8,197
0041	A	15,408	0050	P	8,153

34 (Raw)			34 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0078	x	58,147	0079	y	24,950
0074	t	47,794	007A	z	22,869
006E	n	41,190	0075	u	20,699
006B	k	35,175	03BB	λ	20,039
0069	i	33,036	03B5	ϵ	14,918
0061	a	25,471	0071	q	14,409
0079	y	24,950	0048	H	13,738
006A	j	24,150	0063	c	13,607
007A	z	22,869	0067	g	13,044
0064	d	22,817	004C	L	12,449
0075	u	20,699	0062	b	11,748
0073	s	20,433	006C	l	11,587
03BB	λ	20,039	0054	T	11,190
006D	m	19,788	03BC	μ	11,188
03B1	α	19,445	0044	D	11,123
0070	p	17,039	0068	h	10,929
0066	f	16,756	03C9	ω	10,821
0041	A	16,300	0046	F	10,645
03B5	ϵ	14,918	0065	e	10,563
0071	q	14,409	0076	v	10,328

35 (Raw)			35 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0078	x	51,773	0075	u	39,841
0074	t	49,859	004C	L	21,094
0075	u	39,841	03B5	ϵ	20,740
006E	n	35,705	03BB	λ	20,189
006B	k	29,924	0076	v	16,820
0069	i	28,941	0079	y	15,920
0073	s	25,234	03BE	ξ	15,154
006A	j	24,968	007A	z	14,459
0064	d	24,095	0054	T	14,333
004C	L	21,094	004E	N	13,906
03B5	ϵ	20,740	0048	H	13,575
03BB	λ	20,189	0052	R	12,421
0070	p	19,107	0068	h	12,392
0043	C	17,450	03A9	Ω	12,305
03B1	α	17,087	0077	w	11,562
0072	r	16,834	03B4	δ	11,120
0076	v	16,820	0067	g	10,933
0061	a	15,931	0044	D	10,809
0079	y	15,920	0071	q	10,380
0066	f	15,215	03BC	μ	10,356

37 (Raw)			37 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	51,655	007A	z	19,638
0078	x	44,535	0054	T	18,193
0069	i	34,497	0075	u	16,720
006B	k	34,295	0067	g	14,966
0074	t	32,308	0079	y	14,171
0066	f	26,696	0048	H	13,979
0064	d	20,594	004E	N	13,625
0070	p	19,718	004C	L	13,209
007A	z	19,638	0076	v	13,120
006A	j	19,428	03B5	ϵ	13,050
0058	X	19,010	03BC	μ	12,907
0073	s	18,672	0046	F	12,829
0054	T	18,193	0063	c	12,663
0041	A	17,521	0071	q	12,584
006D	m	17,087	03BB	λ	12,516
0075	u	16,720	0068	h	11,528
0061	a	16,392	0042	B	11,202
03B1	α	16,088	0052	R	10,461
004D	M	15,955	0055	U	10,086
0043	C	15,855	0050	P	9,973

39 (Raw)			39 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	67,386	0071	q	45,284
0078	x	53,813	007A	z	44,398
0071	q	45,284	03BB	λ	17,146
007A	z	44,398	0050	P	14,665
0069	i	39,236	0079	y	13,712
006B	k	35,479	03BC	μ	12,987
0074	t	29,676	0046	F	11,716
006D	m	28,255	0063	c	11,655
006A	j	27,335	004C	L	11,583
0061	a	24,609	0062	b	11,382
0041	A	22,491	0076	v	10,691
0070	p	22,246	0052	R	10,624
0066	f	17,971	0075	u	10,485
03BB	λ	17,146	03C1	ρ	10,217
0058	X	15,691	006C	l	9,944
03B1	α	15,485	0068	h	9,621
0064	d	15,323	0042	B	9,409
0050	P	14,665	004E	N	9,085
0079	y	13,712	0065	e	8,957
03BC	μ	12,987	0056	V	8,617

40 (Raw)			40 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006B	k	86,183	007A	z	61,467
006E	n	66,226	03B5	ϵ	31,923
007A	z	61,467	0062	b	31,175
0078	x	45,947	0071	q	20,228
0064	d	42,411	0077	w	19,191
0061	a	39,912	0075	u	18,817
03B5	ϵ	31,923	006C	l	16,318
0062	b	31,175	0065	e	15,604
0074	t	29,543	004C	L	15,298
006D	m	27,894	03BB	λ	15,162
006A	j	27,010	0079	y	11,134
0069	i	24,733	0067	g	10,505
0066	f	23,101	0063	c	10,097
0071	q	20,228	03B6	ζ	9,655
0072	r	19,242	0048	H	9,281
0077	w	19,191	03C9	ω	9,128
0073	s	19,123	03C4	τ	8,941
0075	u	18,817	0044	D	8,924
03B1	α	18,545	0076	v	7,955
0070	p	17,967	03A9	Ω	7,921

41 (Raw)			41 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	69,269	007A	z	36,374
0078	x	45,605	0062	b	27,127
0061	a	40,850	004E	N	17,345
0069	i	39,123	0063	c	14,941
006B	k	37,184	0050	P	14,209
007A	z	36,374	004C	L	13,589
0074	t	33,428	03BB	λ	13,559
006A	j	29,418	0071	q	13,348
0066	f	27,738	0077	w	13,206
0062	b	27,127	03BC	μ	12,116
006D	m	25,262	0067	g	12,038
0073	s	22,910	0054	T	12,008
0070	p	21,312	03C0	π	10,333
0064	d	18,926	0065	e	9,893
0041	A	17,375	0075	u	9,704
004E	N	17,345	006C	l	9,398
0072	r	15,889	0042	B	9,385
0063	c	14,941	0046	F	9,316
0050	P	14,209	0068	h	8,860
004C	L	13,589	0049	I	8,420

42 (Raw)			42 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	57,609	004C	L	21,056
0078	x	53,075	007A	z	20,116
006B	k	37,933	004E	N	18,721
006A	j	35,279	03BE	ξ	17,973
0066	f	30,526	0054	T	16,722
0069	i	29,398	0079	y	15,756
0064	d	27,767	03BC	μ	14,942
0074	t	26,042	0051	Q	14,005
0070	p	23,372	0050	P	13,829
006D	m	22,032	0052	R	13,246
004C	L	21,056	03BB	λ	12,737
007A	z	20,116	0049	I	12,552
004E	N	18,721	0075	u	12,261
03BE	ξ	17,973	03C0	π	11,479
0043	C	17,372	0071	q	11,106
03B1	α	16,886	0065	e	11,055
0054	T	16,722	03B5	ϵ	10,700
0061	a	15,808	0062	b	10,521
0079	y	15,756	0042	B	10,308
0041	A	15,422	0067	g	10,119

43 (Raw)			43 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0047	G	47,832	004C	L	23,529
006E	n	44,069	03C0	π	17,606
0078	x	41,523	007A	z	17,409
0066	f	29,703	0067	g	16,111
0069	i	28,830	0050	P	14,676
006B	k	25,781	0054	T	14,621
0058	X	25,295	0048	H	14,575
004C	L	23,529	0075	u	14,468
0041	A	23,451	004E	N	14,025
0070	p	23,082	0045	E	13,683
0064	d	22,308	0079	y	13,179
0074	t	17,836	03BC	μ	12,962
03C0	π	17,606	0065	e	12,300
007A	z	17,409	0042	B	12,148
0053	S	17,193	03BB	λ	11,970
006A	j	16,732	0046	F	11,780
0061	a	16,592	004B	K	11,488
006D	m	16,410	03BE	ξ	11,201
0067	g	16,111	0052	R	10,712
03B1	α	15,687	0044	D	10,263

44 (Raw)			44 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0078	x	67,940	0079	y	26,876
006E	n	66,799	007A	z	24,376
006B	k	42,850	0067	g	19,243
0066	f	36,746	03BE	ξ	17,053
0064	d	33,749	0077	w	16,688
006D	m	32,258	0071	q	15,771
0074	t	29,578	0062	b	15,026
03B1	α	28,592	03BC	μ	14,296
0079	y	26,876	03BD	ν	13,698
007A	z	24,376	0065	e	13,644
0069	i	20,337	004E	N	13,480
0067	g	19,243	0054	T	12,890
0061	a	19,111	0050	P	12,448
006A	j	18,326	004C	L	12,347
0070	p	18,272	03BB	λ	12,292
03BE	ξ	17,053	004B	K	10,654
0077	w	16,688	0063	c	10,499
0071	q	15,771	0049	I	9,178
0062	b	15,026	03C3	σ	9,046
0073	s	14,428	03B2	β	8,852

45 (Raw)			45 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0074	t	68,694	004C	L	23,272
006E	n	53,143	03B5	ϵ	21,561
006B	k	44,502	0052	R	21,400
0078	x	40,844	0075	u	20,962
0064	d	34,202	0054	T	18,630
004C	L	23,272	007A	z	18,502
0070	p	22,951	004E	N	18,128
0073	s	22,598	03BB	λ	18,010
0041	A	21,882	0079	y	16,459
03B5	ϵ	21,561	03C4	τ	15,507
0052	R	21,400	0077	w	15,219
0075	u	20,962	0048	H	14,566
0043	C	20,759	0071	q	13,871
006D	m	20,716	0049	I	13,347
0066	f	19,839	0042	B	12,919
03B1	α	19,197	0063	c	12,459
0054	T	18,630	03B4	δ	11,315
007A	z	18,502	0393	Γ	10,566
004E	N	18,128	0076	v	10,320
03BB	λ	18,010	0068	h	10,171

46 (Raw)			46 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	54,379	0045	E	16,850
0069	i	38,332	0042	B	16,394
0078	x	38,202	0054	T	15,396
0041	A	35,760	0048	H	14,478
006B	k	29,628	004E	N	14,262
0058	X	25,625	0065	e	13,977
0074	t	25,235	0075	u	13,748
0070	p	24,449	0079	y	13,706
0061	a	22,855	004B	K	13,566
006A	j	21,568	004C	L	13,528
0066	f	20,849	0071	q	11,955
0043	C	20,723	007A	z	11,954
0047	G	19,223	0062	b	11,586
004D	M	17,748	0046	F	11,463
0073	s	17,336	0067	g	10,720
0045	E	16,850	0076	v	10,395
0042	B	16,394	03BB	λ	10,310
006D	m	16,266	0050	P	10,108
03B1	α	15,715	0049	I	10,092
0064	d	15,609	03BC	μ	9,852

47 (Raw)			47 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	55,323	0054	T	23,506
0078	x	42,121	0048	H	18,553
006B	k	36,708	007A	z	18,012
0069	i	33,723	03BB	λ	16,309
0041	A	33,207	004C	L	16,255
0074	t	30,275	0042	B	15,433
006A	j	24,184	0075	u	14,418
0066	f	23,866	0079	y	14,083
0054	T	23,506	0045	E	13,745
0070	p	20,422	004E	N	13,715
0061	a	19,087	0050	P	13,597
0058	X	18,955	0065	e	12,212
0048	H	18,553	03BC	μ	10,934
007A	z	18,012	0067	g	10,812
0043	C	17,563	0062	b	10,482
0064	d	16,665	0068	h	10,333
03B1	α	16,371	0049	I	10,214
03BB	λ	16,309	0046	F	10,191
004C	L	16,255	0056	V	10,174
006D	m	15,780	0055	U	10,152

49 (Raw)			49 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0078	x	67,861	0075	u	36,340
0074	t	54,186	0079	y	22,210
0069	i	42,142	0054	T	18,753
0075	u	36,340	0076	v	17,991
006E	n	34,615	03A9	Ω	17,543
006B	k	32,257	0068	h	17,073
0070	p	24,945	004B	K	16,216
0064	d	24,204	004C	L	15,553
0079	y	22,210	03B5	ϵ	14,126
0073	s	21,765	0048	H	13,337
0054	T	18,753	0067	g	12,872
0076	v	17,991	007A	z	12,413
03A9	Ω	17,543	0042	B	11,526
0068	h	17,073	0050	P	11,493
006A	j	16,222	0046	F	10,996
004B	K	16,216	0044	D	10,948
004D	M	16,047	0052	R	10,942
0066	f	15,930	0071	q	10,800
004C	L	15,553	0077	w	10,740
03B1	α	14,927	0056	V	10,727

51 (Raw)			51 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0069	i	55,512	007A	z	22,867
006E	n	55,292	0076	v	20,118
0078	x	44,372	0050	P	19,457
006B	k	33,986	0079	y	18,789
006A	j	28,161	0071	q	16,879
0070	p	25,907	0052	R	15,982
0061	a	24,764	0054	T	14,365
0064	d	23,290	0063	c	13,925
007A	z	22,867	0042	B	13,378
0072	r	22,683	0062	b	12,997
0074	t	21,408	0077	w	12,927
0053	S	21,191	0056	V	12,378
0041	A	21,020	004C	L	12,057
0076	v	20,118	0057	W	11,554
0050	P	19,457	0046	F	10,652
0058	X	18,809	0048	H	10,634
0079	y	18,789	0044	D	10,559
006D	m	18,576	0075	u	10,554
0043	C	17,164	0065	e	9,857
0071	q	16,879	0055	U	8,916

52 (Raw)			52 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	65,621	0050	P	25,120
0069	i	54,295	0076	v	19,341
0078	x	40,097	0046	F	17,160
006B	k	36,405	0079	y	14,330
0064	d	32,757	0054	T	13,954
0041	A	27,779	0042	B	13,931
006A	j	27,569	0062	b	13,888
0050	P	25,120	0048	H	13,345
0070	p	23,830	0065	e	12,839
006D	m	21,699	004B	K	12,714
0053	S	21,221	004C	L	12,650
0061	a	20,590	0063	c	12,430
0076	v	19,341	0071	q	12,417
0074	t	18,936	007A	z	12,054
0058	X	18,210	0075	u	11,762
0072	r	17,327	0049	I	10,708
0046	F	17,160	0394	Δ	10,628
0043	C	16,686	03BB	λ	10,285
0066	f	15,733	0067	g	9,614
004D	M	15,711	0044	D	9,583

53 (Raw)			53 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0069	i	40,529	0067	g	23,064
006E	n	33,599	0054	T	16,985
004D	M	30,988	0048	H	16,674
0078	x	30,947	0075	u	15,153
006B	k	28,512	004C	L	14,983
0074	t	25,994	0065	e	14,102
0058	X	23,693	0076	v	13,711
0067	g	23,064	03BB	λ	12,986
0064	d	22,373	007A	z	12,804
0070	p	21,293	0056	V	12,481
006A	j	20,580	0063	c	12,132
0041	A	18,753	0046	F	11,886
03B1	α	18,475	0044	D	11,847
0053	S	18,266	0079	y	11,824
0061	a	18,114	0050	P	11,700
0073	s	17,282	0068	h	11,224
0054	T	16,985	0052	R	10,937
0048	H	16,674	0045	E	10,858
0066	f	16,344	0062	b	10,781
0072	r	15,761	0042	B	10,584

54 (Raw)			54 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0058	X	55,310	0079	y	22,450
0078	x	53,836	0067	g	19,527
006E	n	53,441	0055	U	18,593
0066	f	40,781	0046	F	16,963
0069	i	35,156	004B	K	16,418
006B	k	28,349	004C	L	16,046
0047	G	25,970	0059	Y	15,643
0041	A	25,125	0054	T	14,899
0079	y	22,450	0056	V	14,327
0070	p	22,105	0042	B	13,910
0043	C	20,022	0048	H	11,159
0067	g	19,527	03BD	ν	11,132
0053	S	19,134	03C9	ω	10,884
0055	U	18,593	0068	h	10,791
03B1	α	18,414	0052	R	10,119
0046	F	16,963	0063	c	9,946
006A	j	16,720	0050	P	9,825
004B	K	16,418	007A	z	9,553
004C	L	16,046	0062	b	9,296
0061	a	16,034	0045	E	9,247

55 (Raw)			55 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	56,170	0048	H	25,266
0058	X	43,408	0042	B	18,665
0069	i	42,470	0046	F	16,444
0041	A	30,951	0050	P	15,608
006B	k	30,281	0054	T	15,308
0070	p	27,363	0059	Y	15,116
0047	G	27,207	0045	E	15,017
0053	S	26,187	004C	L	14,990
0043	C	25,386	0067	g	14,414
0048	H	25,266	004B	K	13,663
004D	M	24,470	0071	q	13,008
0078	x	23,491	0055	U	11,830
0066	f	22,943	0052	R	11,675
0042	B	18,665	0056	V	11,150
006D	m	18,505	0044	D	10,394
006A	j	17,419	03C0	π	10,262
0061	a	17,109	0063	c	9,926
0046	F	16,444	0062	b	9,839
0074	t	15,941	03C3	σ	9,663
0050	P	15,608	004E	N	9,065

57 (Raw)			57 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0069	i	44,936	0048	H	20,996
006E	n	43,629	004B	K	19,454
004D	M	32,369	0054	T	17,049
006B	k	28,725	004C	L	16,350
0053	S	27,751	0067	g	16,298
0078	x	25,101	0046	F	15,264
0058	X	23,647	0044	D	14,869
0070	p	23,368	0042	B	14,407
0074	t	22,768	0071	q	14,264
0048	H	20,996	0063	c	13,365
0041	A	20,505	0062	b	13,267
0043	C	20,365	004E	N	12,855
0047	G	20,008	0076	v	12,784
004B	K	19,454	0050	P	12,607
006A	j	18,774	03C0	π	12,060
0061	a	18,196	0056	V	11,704
0054	T	17,049	0045	E	11,203
0066	f	16,893	0065	e	10,186
006D	m	16,742	0068	h	9,969
004C	L	16,350	0052	R	9,913

58 (Raw)			58 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	36,884	0067	g	19,523
0078	x	36,773	03BB	λ	17,747
0069	i	35,541	0075	u	16,700
006B	k	29,020	004C	L	15,815
0074	t	28,061	0048	H	14,861
004D	M	27,665	0054	T	14,718
0064	d	21,992	0044	D	14,191
0058	X	21,814	0079	y	13,626
006A	j	21,775	0050	P	12,925
0070	p	20,329	0065	e	12,478
0041	A	19,810	007A	z	12,104
0067	g	19,523	0071	q	12,042
0066	f	18,384	0045	E	11,979
0073	s	18,222	0076	v	11,771
03BB	λ	17,747	0063	c	11,694
0061	a	17,140	0068	h	11,639
0075	u	16,700	03B5	ϵ	11,443
0043	C	16,081	0042	B	11,327
03B1	α	16,042	0052	R	11,291
004C	L	15,815	004E	N	11,102

60 (Raw)			60 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	68,608	004E	N	18,998
0074	t	54,887	0079	y	18,595
0078	x	50,985	0075	u	17,387
0069	i	34,497	0054	T	16,211
006B	k	34,486	007A	z	14,589
0064	d	27,431	03B5	ϵ	14,222
0073	s	24,547	0063	c	13,829
006A	j	22,103	03BC	μ	13,588
0058	X	19,090	0042	B	12,680
004E	N	18,998	0050	P	12,443
0070	p	18,871	03BB	λ	12,089
0079	y	18,595	004C	L	11,773
006D	m	17,406	0065	e	11,234
0075	u	17,387	0045	E	9,909
0054	T	16,211	0062	b	9,859
0041	A	16,020	03B3	γ	9,608
0066	f	15,923	03B2	β	9,547
03B1	α	15,776	0052	R	9,457
0061	a	15,563	03C3	σ	9,449
0072	r	15,560	0068	h	9,333

62 (Raw)			62 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	75,938	0068	h	20,265
0078	x	57,046	0079	y	18,130
0074	t	45,626	03B8	ϑ	17,310
006B	k	40,343	004E	N	17,167
0069	i	38,040	0050	P	16,274
006A	j	30,077	0075	u	15,768
0066	f	27,419	0054	T	12,603
0058	X	24,226	03B2	β	12,442
006D	m	23,776	03B5	ϵ	12,289
0064	d	23,713	0063	c	12,233
03B1	α	20,482	0046	F	12,198
0068	h	20,265	0059	Y	12,062
0073	s	19,721	03BB	λ	11,431
0079	y	18,130	03B4	δ	10,757
03B8	ϑ	17,310	03BC	μ	10,593
004E	N	17,167	0065	e	10,516
0050	P	16,274	0067	g	10,049
0070	p	16,221	005A	Z	9,717
0075	u	15,768	007A	z	9,717
0041	A	13,238	004B	K	9,424

65 (Raw)			65 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	59,526	0075	u	24,193
0078	x	55,394	0068	h	20,243
0074	t	45,320	0079	y	18,639
0069	i	43,886	007A	z	18,147
006B	k	43,696	004E	N	15,084
006A	j	30,824	0054	T	13,872
0075	u	24,193	0063	c	13,184
0061	a	23,796	0071	q	12,415
0066	f	23,560	0076	v	12,341
0073	s	23,129	03B5	ϵ	11,748
0064	d	21,371	03BB	λ	11,600
0068	h	20,243	004C	L	11,410
006D	m	20,188	03BC	μ	11,341
0079	y	18,639	006C	l	11,341
0070	p	18,571	0046	F	10,857
007A	z	18,147	03B4	δ	10,595
03B1	α	15,094	0062	b	10,511
004E	N	15,084	03C0	π	9,886
0072	r	14,233	0044	D	9,827
0041	A	14,005	0067	g	9,818

68 (Raw)			68 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	70,125	0050	P	18,589
0069	i	53,883	007A	z	16,016
0078	x	43,467	0063	c	15,552
006B	k	38,548	0076	v	15,509
0058	X	29,818	0075	u	14,784
0074	t	26,972	0079	y	14,247
0070	p	26,915	0062	b	13,838
006A	j	26,547	0059	Y	13,540
0061	a	23,747	03B2	β	13,176
03B1	α	21,175	0077	w	12,656
006D	m	20,537	0046	F	11,963
0072	r	19,755	0054	T	11,699
0064	d	19,616	0067	g	11,244
0066	f	19,013	0056	V	10,984
0041	A	19,012	0042	B	10,656
0050	P	18,589	0055	U	10,036
0053	S	18,096	0044	D	10,029
0073	s	17,318	004C	L	9,827
007A	z	16,016	006C	l	9,699
0063	c	15,552	0049	I	9,366

70 (Raw)			70 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0069	i	44,356	0071	q	23,827
006B	k	36,320	004C	L	20,098
006E	n	36,274	0048	H	19,339
0078	x	35,184	0054	T	17,079
0074	t	28,517	0076	v	16,011
0071	q	23,827	0079	y	15,947
006A	j	23,574	0067	g	15,684
0073	s	23,136	0065	e	15,592
0064	d	22,587	007A	z	15,474
0041	A	21,506	0044	D	15,425
0070	p	21,000	03BB	λ	14,576
006D	m	20,524	0075	u	13,810
004C	L	20,098	0068	h	13,326
004D	M	19,571	004E	N	13,168
0048	H	19,339	0052	R	12,187
0058	X	18,333	0055	U	10,798
0061	a	17,441	0050	P	10,720
0054	T	17,079	0056	V	10,581
0072	r	16,851	03B3	γ	10,529
0076	v	16,011	03C9	ω	10,226

74 (Raw)			74 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0074	t	65,824	0075	u	54,935
0075	u	54,935	03A9	Ω	37,670
006E	n	43,736	03B5	ϵ	26,439
0078	x	43,475	004B	K	25,264
03A9	Ω	37,670	0076	v	23,866
0069	i	30,274	0068	h	23,418
006B	k	28,378	0048	H	20,062
03B5	ϵ	26,439	03B4	δ	19,857
004B	K	25,264	0067	g	19,789
0073	s	24,512	004C	L	17,445
0076	v	23,866	0054	T	14,872
0064	d	23,859	0062	b	13,691
0068	h	23,418	004E	N	13,691
0061	a	22,455	0045	E	12,579
0048	H	20,062	0042	B	11,149
03B4	δ	19,857	0077	w	10,957
0067	g	19,789	0044	D	10,777
004C	L	17,445	0055	U	10,534
0054	T	14,872	0065	e	10,323
006A	j	14,531	0046	F	10,049

76 (Raw)			76 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0074	t	80,987	0075	u	35,566
0078	x	45,490	0054	T	28,826
0075	u	35,566	004C	L	23,430
0073	s	29,921	03B5	ϵ	20,475
0054	T	28,826	03C9	ω	18,535
006E	n	27,874	0079	y	16,302
006B	k	25,886	03C4	τ	16,095
0064	d	23,452	0077	w	14,686
004C	L	23,430	0076	v	14,676
03B5	ϵ	20,475	0048	H	14,378
0070	p	20,209	0052	R	13,671
0069	i	18,545	03A9	Ω	12,560
03C9	ω	18,535	0068	h	12,550
0066	f	17,854	007A	z	12,273
03B1	α	16,627	03BE	ξ	11,385
0079	y	16,302	0065	e	11,295
0043	C	16,276	004E	N	11,013
0072	r	16,201	03BD	ν	11,003
03C4	τ	16,095	0044	D	10,785
0077	w	14,686	03B4	δ	9,950

78 (Raw)			78 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006B	k	73,104	006C	l	38,987
006E	n	57,304	03BE	ξ	25,019
0078	x	45,952	004E	N	24,616
006C	l	38,987	03C3	σ	21,516
0074	t	36,814	0075	u	21,476
0069	i	32,466	03B2	β	17,370
006A	j	26,850	03C0	π	16,162
0064	d	26,750	03C4	τ	15,800
03BE	ξ	25,019	0394	Δ	15,337
004E	N	24,616	004C	L	14,492
0072	r	22,342	03C1	ρ	13,948
006D	m	21,677	03C8	ψ	13,908
03C3	σ	21,516	0052	R	12,902
0075	u	21,476	0076	v	11,533
03B1	α	21,194	0046	F	11,372
0066	f	20,530	03BB	λ	10,969
0070	p	18,638	0079	y	10,406
03B2	β	17,370	0048	H	10,043
0073	s	16,827	0050	P	9,601
03C0	π	16,162	007A	z	9,520

80 (Raw)			80 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006B	k	90,862	0071	q	36,076
0064	d	67,846	03C4	τ	31,676
0074	t	53,165	0063	c	21,210
0078	x	49,089	03BD	ν	19,682
0071	q	36,076	0062	b	17,227
006A	j	34,085	0075	u	16,625
03C4	τ	31,676	0076	v	16,533
0058	X	30,658	0054	T	16,301
0070	p	28,110	004A	J	15,699
006E	n	25,239	0394	Δ	15,143
0061	a	24,915	0065	e	15,051
03B1	α	22,414	0067	g	13,939
0063	c	21,210	0048	H	13,661
006D	m	20,793	0079	y	12,133
03BD	ν	19,682	004C	L	10,003
004D	M	17,968	03BC	μ	9,540
0062	b	17,227	0056	V	9,169
0073	s	16,764	03C0	π	9,077
0075	u	16,625	0050	P	9,030
0076	v	16,533	0055	U	8,752

81 (Raw)			81 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0069	i	43,985	0071	q	23,869
006E	n	39,823	007A	z	18,516
006B	k	32,300	03BB	λ	17,619
0061	a	31,930	004C	L	16,841
0078	x	29,941	0048	H	16,746
0074	t	29,378	0062	b	16,367
006A	j	26,757	0065	e	15,801
0041	A	25,905	0075	u	15,781
0071	q	23,869	0067	g	15,567
0070	p	18,835	004E	N	13,965
006D	m	18,681	0054	T	13,172
0073	s	18,570	0042	B	13,112
007A	z	18,516	0068	h	12,188
0064	d	18,189	0056	V	12,094
03B1	α	17,870	0052	R	12,037
03BB	λ	17,619	0076	v	11,467
004C	L	16,841	0046	F	11,256
0048	H	16,746	006C	l	11,206
0062	b	16,367	0055	U	11,107
0066	f	16,098	0050	P	10,954

82 (Raw)			82 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	55,632	004E	N	26,744
0078	x	46,210	0079	y	17,699
0069	i	42,621	007A	z	16,598
0074	t	37,716	0062	b	16,356
006B	k	33,825	0071	q	15,637
004E	N	26,744	0063	c	15,436
0064	d	24,729	0075	u	15,354
006A	j	24,710	004C	L	15,265
0070	p	21,621	03BB	λ	14,858
006D	m	20,142	0042	B	14,132
0061	a	18,021	0065	e	13,195
0073	s	17,905	03B5	ϵ	12,941
0079	y	17,699	039B	Λ	12,764
007A	z	16,598	0052	R	12,350
0062	b	16,356	006C	l	12,243
0072	r	16,096	03C3	σ	12,152
0071	q	15,637	0076	v	11,908
0063	c	15,436	03B7	η	11,869
0075	u	15,354	0054	T	11,616
004C	L	15,265	03BC	μ	11,477

83 (Raw)			83 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0069	i	41,378	0067	g	22,103
0078	x	34,805	0076	v	20,535
004D	M	31,117	0075	u	19,022
0074	t	27,169	004C	L	18,681
006B	k	26,092	03B5	ϵ	17,038
006A	j	24,715	0045	E	15,838
0061	a	24,599	03BB	λ	14,106
006E	n	22,308	0048	H	13,935
0067	g	22,103	03C8	ψ	13,901
0072	r	21,374	03B3	γ	13,281
0064	d	21,244	0063	c	12,926
03B1	α	21,149	0068	h	12,769
0070	p	21,094	0046	F	12,674
0058	X	20,856	0065	e	12,551
0076	v	20,535	0054	T	12,470
0075	u	19,022	03BC	μ	12,340
004C	L	18,681	004B	K	11,951
03B5	ϵ	17,038	0393	Γ	11,815
0045	E	15,838	004E	N	11,270
0073	s	14,229	007A	z	11,147

85 (Raw)			85 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0074	t	62,548	004E	N	57,797
004E	N	57,797	0079	y	27,526
0069	i	49,522	0076	v	27,075
0078	x	46,942	0057	W	25,887
0073	s	40,224	0065	e	25,519
004D	M	35,923	0052	R	24,372
0070	p	35,923	0059	Y	23,102
0072	r	32,646	0042	B	18,432
0064	d	30,024	03C0	π	14,787
0066	f	29,492	0071	q	14,582
006B	k	28,140	0077	w	14,500
0079	y	27,526	0054	T	14,213
0076	v	27,075	03B8	ϑ	11,428
0057	W	25,887	006C	l	10,609
006E	n	25,519	03B5	ϵ	10,035
0065	e	25,519	004C	L	8,356
0053	S	25,478	0062	b	8,233
0052	R	24,372	0394	Δ	7,987
0059	Y	23,102	03B3	γ	7,700
0042	B	18,432	03A8	Ψ	7,373

86 (Raw)			86 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0074	t	65,232	03B5	ϵ	54,851
03B5	ϵ	54,851	0054	T	37,404
0078	x	48,954	0079	y	36,210
0054	T	37,404	0075	u	30,264
0079	y	36,210	03B8	ϑ	26,365
0073	s	35,528	03C9	ω	22,978
0075	u	30,264	004C	L	20,541
03B8	ϑ	26,365	0044	D	17,983
03C9	ω	22,978	0052	R	17,788
0064	d	21,955	03C4	τ	17,057
006B	k	21,297	0048	H	16,180
004C	L	20,541	03BC	μ	15,838
0044	D	17,983	0068	h	15,790
0052	R	17,788	03B4	δ	15,546
03C4	τ	17,057	03B3	γ	14,961
0053	S	16,326	0065	e	14,888
0048	H	16,180	03C8	ψ	14,474
03BC	μ	15,838	0049	I	13,475
0068	h	15,790	007A	z	12,378
03B4	δ	15,546	0071	q	11,988

90 (Raw)			90 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0069	i	65,981	0050	P	22,262
0078	x	62,123	0063	c	20,612
006E	n	47,965	0076	v	19,705
006B	k	35,603	0079	y	18,500
006A	j	33,305	0075	u	16,450
0074	t	30,867	007A	z	15,391
006D	m	28,642	0054	T	14,405
0041	A	27,769	0046	F	14,265
0066	f	26,300	0062	b	14,186
0064	d	25,838	03BB	λ	13,493
0050	P	22,262	0065	e	11,330
0063	c	20,612	0045	E	11,252
0076	v	19,705	0049	I	10,790
0070	p	18,995	03BC	μ	10,536
0072	r	18,984	03B5	ϵ	10,080
0079	y	18,500	004C	L	9,861
0073	s	16,810	0042	B	9,461
0075	u	16,450	0051	Q	9,348
007A	z	15,391	03C1	ρ	9,145
0061	a	15,295	0077	w	9,145

91 (Raw)			91 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0074	t	79,288	0054	T	30,561
0078	x	53,178	0071	q	25,900
006E	n	42,515	0079	y	17,635
0069	i	41,015	0075	u	17,168
0054	T	30,561	0052	R	16,455
006B	k	29,626	0068	h	16,012
0064	d	28,298	03B8	ϑ	15,397
0073	s	28,015	004C	L	14,758
0071	q	25,900	0050	P	13,282
0058	X	25,162	03C4	τ	12,950
006A	j	22,358	0062	b	12,298
0070	p	22,198	0048	H	12,113
0061	a	21,657	0077	w	11,597
0066	f	18,570	0065	e	11,351
0079	y	17,635	03C6	φ	11,228
0075	u	17,168	004E	N	11,216
0047	G	16,959	0042	B	11,019
0052	R	16,455	0059	Y	10,785
0068	h	16,012	0045	E	10,158
03B8	ϑ	15,397	03BC	μ	10,109

92 (Raw)			92 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006B	k	64,870	0050	P	29,217
006E	n	47,462	004E	N	25,993
0069	i	44,450	0049	I	18,310
0074	t	39,182	03B8	ϑ	16,784
0072	r	35,268	0054	T	16,108
006A	j	30,478	0079	y	15,219
0078	x	29,642	03C3	σ	14,157
0050	P	29,217	0065	e	13,945
0061	a	26,006	0062	b	12,658
004E	N	25,993	03B5	ϵ	12,419
0073	s	25,263	0045	E	12,207
0041	A	23,751	0042	B	12,167
0053	S	22,742	004A	J	12,154
0058	X	18,483	0071	q	11,968
0049	I	18,310	0076	v	11,849
03B8	ϑ	16,784	0055	U	11,822
0054	T	16,108	004B	K	11,424
03B1	α	15,803	0044	D	11,145
0064	d	15,497	03C9	ω	10,734
0079	y	15,219	03B2	β	10,561

93 (Raw)			93 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0074	t	73,161	0054	T	22,488
0078	x	62,680	007A	z	17,292
0069	i	44,137	0075	u	16,795
006E	n	40,440	0079	y	13,923
0073	s	32,842	0056	V	13,840
006A	j	31,656	03B5	ϵ	12,673
006B	k	27,627	0050	P	12,496
0054	T	22,488	004E	N	12,349
03B1	α	21,878	0063	c	12,055
0064	d	21,310	0071	q	11,935
0061	a	20,846	0044	D	11,889
006D	m	20,188	03B2	β	11,856
0070	p	18,851	006C	l	11,310
0041	A	18,373	0076	v	10,956
0058	X	18,222	0051	Q	10,707
007A	z	17,292	004C	L	10,519
0075	u	16,795	0059	Y	10,026
0066	f	16,581	0068	h	9,909
0079	y	13,923	0042	B	9,484
0056	V	13,840	03BB	λ	8,994

94 (Raw)			94 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
006E	n	59,018	007A	z	22,723
0078	x	51,245	0079	y	18,500
0069	i	41,810	004E	N	17,364
006B	k	33,169	0065	e	16,407
0066	f	28,208	0050	P	16,074
0070	p	27,238	0067	g	15,723
006D	m	26,808	0071	q	14,173
0074	t	25,695	0044	D	13,175
0064	d	24,185	004C	L	13,103
006A	j	22,883	03B8	ϑ	12,980
0061	a	22,748	0068	h	12,510
007A	z	22,723	0052	R	12,309
0041	A	22,573	0076	v	11,697
0058	X	19,058	03BB	λ	11,647
0079	y	18,500	0054	T	11,474
004E	N	17,364	0062	b	11,452
0043	C	16,626	0075	u	11,041
0065	e	16,407	0063	c	10,806
0050	P	16,074	0042	B	9,723
0067	g	15,723	0045	E	9,554

97 (Raw)			97 (Sig.)		
Ucode	Id	Freq	Ucode	Id	Freq
0078	x	189,500	03B8	ϑ	56,933
006E	n	84,861	0042	B	31,283
03B8	ϑ	56,933	0079	y	25,770
006D	m	40,752	004E	N	25,050
0041	A	34,759	004C	L	24,811
0064	d	33,680	0065	e	22,054
0042	B	31,283	03C0	π	19,896
0079	y	25,770	0068	h	17,499
004E	N	25,050	0062	b	12,825
004C	L	24,811	0052	R	12,825
0070	p	24,691	0048	H	10,427
0053	S	24,331	0046	F	9,948
006B	k	24,211	0075	u	9,588
0043	C	22,773	0054	T	8,390
0065	e	22,054	004B	K	8,030
03C0	π	19,896	0063	c	7,790
0061	a	18,578	004F	O	7,071
006A	j	18,578	0067	g	6,352
0066	f	18,218	0050	P	6,112
0074	t	17,739	0071	q	5,393

D.2 Operators

00 (Raw)			00 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	175,371	22C5	⋅	13,847
2061		125,464	2026	…	12,918
002B	+	123,327	02C9	¯	12,732
002C	,	117,843	2219	∙	11,710
002D	−	112,360	02C7	ˇ	7,527
2208	∋	45,910	2260	≠	7,063
2192	→	23,977	2223	∣	7,063
2211	∑	19,795	220F	∏	6,133
22EF	⋯	15,706	2265	≥	5,855
22C5	⋅	13,847	2A7D	⩽	5,111
002F	/	13,847	224D	≍	4,925
2026	…	12,918	222A	∪	4,368
02C9	¯	12,732	2A7E	⩾	4,275
002A	∗	11,895	2200	∀	3,438
2219	∙	11,710	00B1	±	3,159
2264	≤	11,338	232A	⟩	2,509
2202	∂	9,851	2329	⟨	2,509
02DC	˜	9,851	223C	∼	2,509
221E	∞	9,107	2286	⊆	2,323
003E	>	8,828	2295	⊕	2,137

01 (Raw)			01 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	166,748	222B	∫	18,784
2061		134,864	22C6	⋆	15,552
002D	−	108,809	002E	.	14,253
002C	,	93,949	22C5	⋅	12,638
002B	+	91,583	2032	′	10,300
2208	∋	44,810	2282	⊂	9,464
2192	→	27,930	2026	…	7,530
221E	∞	20,977	2260	≠	6,867
002A	∗	18,986	02C6	ˆ	6,319
222B	∫	18,784	2265	≥	5,770
002F	/	15,927	2223	∣	4,443
22C6	⋆	15,552	21A6	⟼	4,414
22EF	⋯	15,148	2229	∩	3,981
002E	.	14,253	00B1	±	3,462
003E	>	13,244	224D	≍	3,173
22C5	⋅	12,638	222A	∪	3,058
2202	∂	12,147	232A	⟩	2,510
02DC	˜	11,830	2329	⟨	2,510
003C	<	11,628	2218	∘	2,452
2211	∑	10,906	0021	!	2,308

03 (Raw)			03 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	121,806	02C9	¯	25,805
2061		115,262	2026	…	13,495
002C	,	100,880	222A	∪	12,654
2208	∋	77,021	2229	∩	12,483
002D	−	60,732	2286	⊆	12,330
002B	+	60,121	2223	∣	9,883
002A	∗	32,796	2218	∘	8,894
003C	<	28,345	2265	≥	8,252
02C9	¯	25,805	2329	⟨	7,348
2192	→	24,370	232A	⟩	7,072
2264	≤	24,242	2260	≠	6,885
002F	/	14,626	2200	∀	6,390
2026	…	13,495	0022	“	6,177
222A	∪	12,654	2227	∧	5,978
2229	∩	12,483	02C6	ˆ	5,825
2286	⊆	12,330	2282	⊂	5,552
003E	>	11,784	2113	ℓ	5,467
2223	∣	9,883	2216	∖	5,282
22EF	⋯	9,781	2203	∃	4,990
02DC	˜	9,428	22C5	⋅	4,745

05 (Raw)			05 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
002D	−	145,459	2026	…	16,028
003D	=	140,626	2265	≥	15,179
002C	,	121,317	2113	ℓ	10,788
002B	+	96,931	22C5	⋅	7,093
2061		95,824	02C6	ˆ	6,713
2208	∋	36,612	2223	∣	6,096
2264	≤	25,792	02C9	¯	5,368
002F	/	22,206	222A	∪	5,287
22EF	⋯	21,483	0021	!	5,058
2211	∑	20,897	2260	≠	4,998
002A	∗	18,597	2229	∩	4,967
2026	…	16,028	220F	∏	4,379
2265	≥	15,179	2218	∘	4,144
003C	<	14,392	2286	⊆	4,090
02DC	˜	11,575	0022	“	3,315
2113	ℓ	10,788	2329	⟨	3,253
2192	→	10,777	232A	⟩	3,221
003E	>	10,364	2216	∖	3,039
00AF	¯	9,529	2032	′	3,003
221E	∞	7,431	2282	⊂	2,907

06 (Raw)			06 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	133,081	2228	∨	11,997
2061		117,487	02C6	ˆ	11,473
002C	,	94,169	22C5	⋅	10,921
002B	+	76,397	2223	∣	10,362
002D	−	75,318	2218	∘	10,152
2208	∋	64,673	2026	…	10,128
2264	≤	31,682	2265	≥	10,072
003C	<	19,653	2227	∧	9,947
002A	∗	18,783	2295	⊕	9,029
2192	→	17,063	2286	⊆	8,839
22EF	⋯	15,911	20D7	⃗	8,618
2228	∨	11,997	222A	∪	8,586
02C6	ˆ	11,473	2229	∩	7,551
22C5	⋅	10,921	2329	⟨	7,051
002F	/	10,764	232A	⟩	6,705
2211	∑	10,744	2260	≠	5,710
2223	∣	10,362	2216	∖	5,533
2218	∘	10,152	2113	ℓ	5,344
2026	…	10,128	0022	“	4,824
2265	≥	10,072	2282	⊂	4,297

08 (Raw)			08 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	147,535	2218	∘	22,712
2061		112,545	232A	⟩	19,281
002C	,	104,922	2329	⟨	19,281
2208	∋	86,434	2026	…	18,249
002D	−	66,835	2286	⊆	14,802
002B	+	41,009	02C9	¯	14,088
2192	→	30,431	2228	∨	11,848
2264	≤	26,111	222A	∪	9,402
2218	∘	22,712	2229	∩	9,037
232A	⟩	19,281	2265	≥	8,116
2329	⟨	19,281	2223	∣	7,846
002A	∗	18,789	2216	∖	7,433
2026	…	18,249	02C6	ˆ	7,051
003E	>	17,582	003A	:	6,432
002F	/	16,645	2295	⊕	6,226
2286	⊆	14,802	2227	∧	6,051
02C9	¯	14,088	2260	≠	5,908
2228	∨	11,848	22C5	⋅	5,463
00AF	¯	11,800	224D	≍	5,066
003C	<	10,625	0022	“	3,764

11 (Raw)			11 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	130,735	2265	≥	11,963
002D	−	128,330	2113	ℓ	10,997
2061		112,484	2223	|	9,474
002C	,	104,964	02C9	¯	8,750
002B	+	94,172	2026	…	7,829
002F	/	40,239	22C5	⋅	7,728
2208	∋	39,319	02C6	ˆ	7,464
2211	∑	20,165	222B	∫	5,719
2264	≤	19,574	220F	∏	5,287
2192	→	18,481	2282	⊂	4,938
002A	∗	17,757	2032	′	4,681
00AF	¯	14,708	2260	≠	4,626
221E	∞	14,627	224D	≍	4,534
003E	>	12,926	2229	∩	4,238
22EF	⋯	12,358	0021	!	3,692
02DC	˜	12,209	2218	∘	3,550
2265	≥	11,963	2295	⊕	3,062
2113	ℓ	10,997	0022	“	2,849
003C	<	10,151	00B1	±	2,796
00D7	×	10,144	226A	≪	2,644

12 (Raw)			12 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	148,002	2265	≥	10,806
002D	−	107,941	2026	…	9,907
2061		102,089	02C9	¯	8,816
002C	,	98,839	2282	⊂	8,796
002B	+	71,338	02C6	ˆ	8,702
2208	∋	52,644	22C5	⋅	7,615
002F	/	48,096	2113	ℓ	7,388
2297	⊗	23,242	2260	≠	7,324
2192	→	21,642	2229	∩	6,519
2264	≤	17,113	2223	|	6,504
002A	∗	17,039	0022	“	6,149
02DC	˜	15,291	2295	⊕	5,477
003E	>	13,552	2020	†	5,467
2211	∑	13,508	222A	∪	4,529
221E	∞	12,984	2207	∇	4,129
22EF	⋯	12,885	20D7	⃗	4,020
00AF	¯	11,581	21A6	⟼	3,477
2265	≥	10,806	232A	⟩	3,417
003C	<	10,697	2329	⟨	3,402
00D7	×	10,347	2228	∨	3,249

13 (Raw)			13 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	140,810	2026	…	19,776
002C	,	103,263	2265	≥	14,666
002D	−	102,940	2229	∩	8,792
2061		94,905	22C6	⋆	7,904
002B	+	84,550	2282	⊂	7,578
2208	∋	41,860	2113	ℓ	7,356
002F	/	33,420	2286	⊆	7,213
2192	→	32,901	2223	|	7,125
002A	∗	24,119	2295	⊕	6,905
2026	…	19,776	2260	≠	6,690
22EF	⋯	19,447	22C5	⋅	6,599
2264	≤	18,021	02C6	ˆ	5,971
2297	⊗	17,837	2219	•	5,643
003E	>	16,705	02C9	¯	5,107
00AF	¯	16,660	2245	≅	4,980
2265	≥	14,666	2218	∘	4,353
02DC	˜	12,084	222A	∪	3,727
2211	∑	10,942	232A	⟩	3,103
003C	<	9,722	2329	⟨	3,096
2229	∩	8,792	2216	\	3,063

14 (Raw)			14 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	131,163	2265	≥	12,093
002D	−	109,551	2282	⊂	11,217
002C	,	107,718	22C5	⋅	10,693
2061		91,878	2026	…	10,640
002B	+	78,257	2223	|	9,474
2208	∋	38,614	02C6	ˆ	9,112
2192	→	36,235	2229	∩	8,580
002A	∗	35,898	02C9	¯	8,278
002F	/	27,527	2295	⊕	6,870
02DC	˜	18,811	2113	ℓ	6,867
00AF	¯	18,610	2218	∘	5,892
2297	⊗	16,621	2260	≠	5,237
003E	>	14,739	2219	•	5,046
2264	≤	14,729	0022	“	4,726
00D7	×	14,560	2245	≅	4,683
22EF	⋯	13,312	2032	′	4,298
2265	≥	12,093	222A	∪	3,837
2282	⊂	11,217	2227	∧	3,615
2211	∑	11,018	232A	⟩	3,172
22C5	⋅	10,693	2329	⟨	3,131

15 (Raw)			15 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	142,159	2026	…	11,906
002D	−	132,939	2265	≥	9,967
002C	,	119,742	02C6	ˆ	7,866
2061		115,736	2020	†	7,657
002B	+	87,906	22C5	⋅	6,547
2208	∋	36,338	2113	ℓ	6,228
22EF	⋯	26,306	220F	∏	5,702
002A	∗	23,752	222B	∫	5,478
2264	≤	22,572	2223	|	5,464
002F	/	21,309	2260	≠	5,121
2192	→	16,339	02C9	¯	4,115
2211	∑	15,333	2218	∘	3,891
02DC	˜	12,240	2227	∧	3,694
00D7	×	12,220	2295	⊕	3,441
2026	…	11,906	0021	!	3,429
003C	<	11,833	2229	∩	3,426
003E	>	11,738	2282	⊂	3,339
2265	≥	9,967	232A	⟩	2,988
221E	∞	9,426	2329	⟨	2,867
2297	⊗	9,163	2032	′	2,757

16 (Raw)			16 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	146,704	2218	∘	12,643
002C	,	101,337	22C5	⋅	11,409
2061		99,220	2026	…	9,614
002D	−	93,008	2295	⊕	8,303
002B	+	60,461	2265	≥	8,105
2297	⊗	58,064	2223	|	7,841
2208	∋	50,037	02C6	ˆ	7,452
002A	∗	37,691	2245	≅	6,592
2192	→	33,963	02C9	¯	6,447
002F	/	15,307	232A	⟩	6,125
22EF	⋯	15,213	2329	⟨	6,021
00AF	¯	14,912	2219	•	5,625
2211	∑	14,683	2260	≠	5,456
003E	>	14,055	2282	⊂	4,317
02DC	˜	13,883	0022	“	4,292
2264	≤	13,437	2286	⊆	4,154
2218	∘	12,643	2229	∩	4,079
22C5	⋅	11,409	2113	ℓ	3,819
2026	…	9,614	21A6	⟼	3,666
003C	<	8,541	2032	′	3,256

17 (Raw)			17 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	137,415	02C6	ˆ	11,128
002C	,	133,348	2026	…	9,548
002D	−	127,670	2223	|	9,248
002B	+	93,691	22C5	⋅	8,820
2061		90,757	02C9	¯	8,520
2208	∋	44,390	2265	≥	7,740
2297	⊗	29,024	2218	∘	7,246
002A	∗	28,920	2295	⊕	6,961
02DC	˜	19,428	232A	⟩	6,426
2264	≤	15,734	2113	ℓ	6,328
22EF	⋯	15,140	2260	≠	5,990
2211	∑	14,357	2329	⟨	5,837
00AF	¯	13,016	00B1	±	5,289
2192	→	12,778	2227	∧	4,576
002F	/	12,148	2282	⊂	3,679
02C6	ˆ	11,128	2229	∩	2,777
2026	…	9,548	2228	∨	2,696
2223	|	9,248	2032	′	2,551
22C5	⋅	8,820	2245	≅	2,544
02C9	¯	8,520	2219	•	2,537

18 (Raw)			18 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	108,669	2218	∘	22,726
2061		100,210	22C5	⋅	10,863
002C	,	91,224	2219	•	10,589
002D	−	86,843	2245	≅	8,910
2192	→	58,245	0022	“	7,935
002A	∗	50,890	2223	|	7,839
002B	+	50,153	2265	≥	7,812
2297	⊗	46,695	02C6	ˆ	7,788
2208	∋	39,454	2295	⊕	7,530
003E	>	23,650	02C9	¯	7,209
2218	∘	22,726	003A	:	6,289
00D7	×	21,580	2026	…	5,752
002F	/	17,681	2282	⊂	5,285
02DC	˜	15,707	2329	⟨	4,995
00AF	¯	11,662	21A6	⟼	4,916
22C5	⋅	10,863	0021	!	4,873
2219	•	10,589	232A	⟩	4,816
22EF	⋯	10,124	2227	∧	4,767
003C	<	9,995	2228	∨	4,434
2264	≤	9,285	2229	∩	3,408

19 (Raw)			19 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	109,807	02C6	ˆ	11,414
002D	−	103,692	2295	⊕	11,069
002C	,	94,512	2265	≥	8,658
2061		93,762	22C5	⋅	8,352
002B	+	65,169	2245	≅	7,998
2192	→	55,514	02C9	¯	7,467
002A	∗	53,707	2218	∘	7,395
2208	∋	43,130	2282	⊂	7,261
2297	⊗	29,562	003A	:	7,135
002F	/	24,873	2223	|	6,171
003E	>	19,678	2026	…	5,108
00D7	×	17,215	232A	⟩	4,860
02DC	˜	16,640	2219	•	4,824
22EF	⋯	16,197	2329	⟨	4,817
221E	∞	15,303	21A6	⟼	4,533
00AF	¯	13,690	2113	ℓ	4,394
2264	≤	12,510	2227	∧	4,268
02C6	ˆ	11,414	2229	∩	3,973
2295	⊕	11,069	2032	′	3,689
2202	∂	9,112	222A	∪	3,298

20 (Raw)			20 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	138,216	2026	...	11,882
002D	−	118,385	2265	≥	10,236
002C	,	115,943	02C6	ˆ	9,748
2061		100,938	22C5	⋅	9,203
002B	+	74,629	2223	|	8,799
2208	∋	52,067	2113	ℓ	7,913
002A	∗	26,608	02C9	¯	7,446
002F	/	22,564	2229	∩	7,368
2192	→	21,864	232A	⟩	7,163
2264	≤	18,271	2329	⟨	6,975
02DC	˜	17,964	2282	⊂	6,300
22EF	⋯	15,785	2260	≠	6,125
00AF	¯	12,730	0022	“	6,113
2026	...	11,882	222A	∪	6,082
003E	>	11,699	2218	∘	5,905
003C	<	11,088	00B1	±	3,944
2297	⊗	10,665	2286	⊆	3,808
2265	≥	10,236	2295	⊕	3,712
00D7	×	10,027	2032	′	3,515
2211	∑	9,881	2245	≅	3,312

22 (Raw)			22 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	128,827	02C6	ˆ	13,554
2061		117,839	2223	|	10,095
002C	,	109,140	2282	⊂	9,840
002D	−	96,020	2218	∘	9,076
2208	∋	65,669	2229	∩	8,793
002B	+	63,525	22C5	⋅	8,300
002A	∗	36,457	2026	...	7,923
2192	→	23,547	2113	ℓ	7,080
002F	/	21,370	02C9	¯	6,523
02DC	˜	20,191	232A	⟩	5,979
2297	⊗	17,385	2032	′	5,935
00AF	¯	14,149	2265	≥	5,926
00D7	×	13,670	2295	⊕	5,850
02C6	ˆ	13,554	2329	⟨	5,785
2264	≤	12,309	222B	∫	5,460
221E	∞	12,075	0022	“	4,837
2223	|	10,095	2260	≠	4,633
2282	⊂	9,840	21A6	⟼	4,073
2211	∑	9,730	2227	∧	3,949
2202	∂	9,508	2286	⊆	3,789

26 (Raw)			26 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
002C	,	128,400	222B	∫	19,234
002D	−	123,314	2265	≥	14,791
003D	=	122,120	22C5	⋅	10,521
2061		118,583	2032	′	8,185
002B	+	71,936	02C9	¯	7,326
2208	∋	56,783	2223	|	6,552
2264	≤	45,717	2113	ℓ	5,759
2211	∑	32,525	2282	⊂	4,631
221E	∞	21,520	2286	⊆	4,578
002F	/	19,333	2229	∩	4,515
222B	∫	19,234	2260	≠	4,167
003C	<	15,279	2016	‖	4,087
2265	≥	14,791	2218	∘	3,925
2192	→	13,935	02C6	ˆ	3,911
003E	>	13,487	2026	...	3,865
22EF	⋯	12,448	2207	∇	3,682
22C5	⋅	10,521	222A	∪	3,045
002A	∗	10,063	2216	\	2,873
02DC	˜	9,293	0022	“	2,816
00AF	¯	8,593	2329	⟨	2,790

28 (Raw)			28 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	124,355	2265	≥	17,283
2061		119,434	2026	...	12,880
002C	,	103,564	2229	∩	11,919
002D	−	97,296	2113	ℓ	10,977
2208	∋	72,626	2282	⊂	9,828
002B	+	57,117	2218	∘	9,828
2264	≤	30,663	22C5	⋅	9,756
002F	/	23,271	2223	|	7,718
221E	∞	22,771	02C6	ˆ	7,709
2192	→	21,627	222A	∪	7,166
003C	<	18,527	222B	∫	7,084
003E	>	17,965	02C9	¯	5,503
2265	≥	17,283	2286	⊆	4,724
002A	∗	17,230	2260	≠	4,142
2211	∑	14,245	0023	#	3,830
2026	...	12,880	2329	⟨	3,715
02DC	˜	12,649	232A	⟩	3,710
00AF	¯	12,592	2200	∀	3,503
2229	∩	11,919	21A6	⟼	2,907
00D7	×	11,078	2032	′	2,763

30 (Raw)			30 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	132,694	2265	≥	11,679
2061		131,096	222B	∫	10,940
002D	−	127,173	02C6	ˆ	10,183
002C	,	100,650	02C9	¯	9,622
002B	+	83,719	2223	|	7,268
2208	∋	41,582	2113	ℓ	7,054
221E	∞	25,216	22C5	⋅	6,736
002F	/	24,461	2282	⊂	6,579
2264	≤	21,782	2026	...	6,336
2202	∂	19,271	2032	′	6,010
02DC	˜	17,302	2216	\	5,549
2192	→	16,819	2229	∩	5,474
003C	<	15,557	2218	∘	5,048
002A	∗	15,448	2260	≠	4,672
00AF	¯	13,458	222A	∪	4,556
003E	>	13,303	20D7	⃗	3,765
2211	∑	12,851	0022	“	3,289
2265	≥	11,679	00B1	±	3,174
222B	∫	10,940	2329	⟨	2,494
02C6	ˆ	10,183	232A	⟩	2,492

31 (Raw)			31 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
2061		124,952	222B	∫	23,629
002D	−	119,515	2265	≥	14,794
003D	=	115,359	2207	∇	14,472
002C	,	104,433	02C6	ˆ	10,455
002B	+	69,468	2216	\	9,941
2208	∋	50,944	2282	⊂	9,052
2264	≤	32,394	22C5	⋅	8,791
2202	∂	30,512	2223	|	7,231
221E	∞	26,652	2229	∩	7,153
222B	∫	23,629	02C9	¯	6,369
003C	<	20,092	2113	ℓ	4,887
002F	/	18,514	0022	“	4,626
2192	→	16,911	222A	∪	4,251
003E	>	16,232	2227	∧	3,398
002A	∗	15,090	2026	...	3,023
2265	≥	14,794	2329	⟨	2,805
2207	∇	14,472	232A	⟩	2,796
00AF	¯	13,339	2260	≠	2,770
02DC	˜	11,675	2218	∘	2,274
2211	∑	10,987	20D7	⃗	2,082

32 (Raw)			32 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	132,302	02C9	¯	12,114
002C	,	109,935	02C6	ˆ	11,882
002D	−	107,996	2282	⊂	11,184
2061		94,881	22C5	⋅	11,155
002B	+	75,387	2229	∩	9,689
2208	∋	42,819	2265	≥	9,686
002A	∗	26,658	2223	|	8,991
2192	→	24,520	2218	∘	8,726
2202	∂	23,143	2227	∧	8,344
02DC	˜	22,869	2026	...	6,480
00AF	¯	17,882	2113	ℓ	5,811
002F	/	17,394	2260	≠	5,302
2264	≤	17,357	2219	•	5,143
00D7	×	13,164	0022	“	5,052
221E	∞	12,747	2032	′	4,868
003E	>	12,361	222B	∫	4,744
02C9	¯	12,114	2216	\	4,696
02C6	ˆ	11,882	222A	∪	4,654
2211	∑	11,734	2295	⊕	4,171
22EF	⋯	11,633	2102	ℂ	3,873

33 (Raw)			33 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
002D	−	191,206	220F	∏	9,229
002C	,	143,504	2265	≥	7,556
002B	+	129,370	2113	ℓ	7,326
003D	=	127,750	2026	...	6,465
2061		81,762	0021	!	5,937
002F	/	44,654	222B	∫	5,354
2208	∋	23,483	22C5	⋅	5,316
2211	∑	20,201	2223	|	5,055
221E	∞	19,647	2032	′	4,787
2264	≤	16,331	00B1	±	3,708
22EF	⋯	15,949	02C6	ˆ	3,697
02DC	˜	15,149	2260	≠	3,192
002A	∗	12,054	02C9	¯	2,754
003C	<	10,828	232A	⟩	2,722
220F	∏	9,229	20D7	⃗	2,647
2192	→	8,513	2329	⟨	2,611
2265	≥	7,556	21A6	⟼	2,064
003E	>	7,430	2218	∘	1,781
2113	ℓ	7,326	0022	“	1,472
2026	...	6,465	2282	⊂	1,316

34 (Raw)			34 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
002D	−	145,443	222B	∫	10,594
003D	=	140,364	02C6	ˆ	9,849
002C	,	123,656	22C5	⋅	7,671
2061		116,528	2265	≥	7,168
002B	+	107,580	2260	≠	6,132
2208	∋	36,954	2223	|	6,074
02DC	˜	22,876	2026	...	5,903
002F	/	21,782	002E	.	5,565
221E	∞	18,865	00B1	±	5,101
2264	≤	18,019	2113	ℓ	4,999
2202	∂	15,110	2032	′	4,747
2192	→	14,865	2282	⊂	4,307
003C	<	14,165	0022	“	3,648
003E	>	12,783	2207	∇	3,477
002A	∗	11,672	02C9	¯	3,324
2211	∑	10,950	2229	∩	3,083
22EF	⋯	10,789	2227	∧	2,639
222B	∫	10,594	2218	∘	2,294
02C6	ˆ	9,849	232A	⟩	2,275
22C5	⋅	7,671	2329	⟨	2,259

35 (Raw)			35 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
002D	−	138,603	222B	∫	23,196
002C	,	111,176	2207	∇	15,387
2061		103,527	22C5	⋅	12,669
003D	=	103,376	2265	≥	11,531
002B	+	97,579	02C9	¯	9,349
2208	∋	38,370	02C6	ˆ	8,170
2264	≤	34,575	2223	|	6,379
2202	∂	28,815	2113	ℓ	6,074
002F	/	25,985	232A	⟩	5,583
221E	∞	23,460	2329	⟨	5,559
222B	∫	23,196	00B1	±	4,556
02DC	˜	19,545	2282	⊂	4,130
003C	<	16,453	2229	∩	3,728
2207	∇	15,387	2272	≲	3,635
003E	>	15,256	002E	.	3,375
002A	∗	14,470	2216	\	3,239
2192	→	14,381	2260	≠	2,843
22C5	⋅	12,669	0022	“	2,767
2211	∑	12,394	2026	…	2,397
2265	≥	11,531	2032	′	2,328

37 (Raw)			37 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	130,767	2265	≥	11,986
002D	−	118,421	02C6	ˆ	11,138
2061		113,424	2282	⊂	9,625
002C	,	102,165	02C9	¯	9,220
002B	+	78,437	22C5	⋅	8,885
2208	∋	53,319	222B	∫	8,747
2192	→	22,923	2223	|	8,542
002A	∗	22,799	2229	∩	8,438
002F	/	20,716	2218	∘	8,400
02DC	˜	20,602	2026	…	8,016
2264	≤	20,400	2113	ℓ	6,973
221E	∞	18,616	222A	∪	5,115
003E	>	15,300	2260	≠	4,727
003C	<	15,081	0022	“	3,832
2202	∂	13,063	2216	\	3,767
2265	≥	11,986	232A	⟩	3,726
00D7	×	11,594	2329	⟨	3,719
00AF	¯	11,306	00B1	±	3,557
2211	∑	11,276	2032	′	3,409
02C6	ˆ	11,138	2207	∇	3,068

39 (Raw)			39 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
002D	−	145,000	2265	≥	13,496
003D	=	142,639	220F	∏	8,013
2061		127,205	2026	…	6,386
002C	,	117,367	2113	ℓ	6,198
002B	+	91,145	2223	|	4,768
2208	∋	45,841	2260	≠	4,486
02DC	˜	24,820	0021	!	4,401
2264	≤	22,939	02C6	ˆ	4,298
002F	/	21,998	22C5	⋅	4,157
221E	∞	20,033	2282	⊂	4,025
002A	∗	17,136	2228	∨	3,715
2211	∑	15,650	02C9	¯	3,555
2192	→	14,888	222A	∪	3,188
2265	≥	13,496	2216	\	3,150
003C	<	13,120	0142	ł	2,915
003E	>	11,671	2218	∘	2,887
22EF	⋯	8,558	21A6	⟼	2,802
220F	∏	8,013	222B	∫	2,736
00AF	¯	7,307	00B1	±	2,680
2202	∂	6,395	224D	≍	2,586

40 (Raw)			40 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
002D	−	171,711	222B	∫	21,406
003D	=	146,029	220F	∏	10,689
002C	,	131,121	2227	∧	10,176
002B	+	104,954	22C5	⋅	8,921
2061		83,290	2113	ℓ	8,779
2211	∑	30,984	2026	…	8,636
00AF	¯	22,404	2265	≥	8,095
22EF	⋯	22,176	02C9	¯	7,781
222B	∫	21,406	2223	|	4,646
221E	∞	19,098	2260	≠	4,560
2208	∋	18,699	2135	ℵ	4,304
2202	∂	15,506	0021	!	3,962
002F	/	13,055	232A	⟩	3,449
002A	∗	11,914	2329	⟨	3,449
220F	∏	10,689	2218	∘	3,420
003E	>	10,632	224D	≍	2,850
2192	→	10,489	00B1	±	2,508
02DC	˜	10,318	02C6	ˆ	2,479
2227	∧	10,176	223C	∼	1,938
003C	<	9,292	2216	\	1,938

41 (Raw)			41 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
002D	−	146,072	0022	“	72,457
003D	=	144,567	22C5	⋅	12,138
002C	,	114,060	222B	∫	11,468
2061		96,368	2032	′	11,163
002B	+	87,963	02C6	ˆ	10,579
0022	“	72,457	2265	≥	9,233
2208	∋	37,248	2026	…	7,594
002F	/	25,317	2113	ℓ	6,510
2264	≤	22,522	2282	⊂	4,001
2211	∑	20,707	2223	|	3,989
221E	∞	20,354	0021	!	3,404
22C5	⋅	12,138	232A	⟩	3,106
222B	∫	11,468	2329	⟨	3,106
002A	∗	11,188	2260	≠	2,966
2032	′	11,163	02C9	¯	2,588
22EF	⋯	10,901	2124	ℤ	2,564
02C6	ˆ	10,579	220F	∏	2,174
02DC	˜	10,512	2228	∨	1,961
2192	→	10,231	223C	∼	1,924
003C	<	9,683	21A6	⟼	1,900

42 (Raw)			42 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
002D	−	124,070	222B	∫	21,131
002C	,	115,225	02C6	ˆ	16,261
003D	=	113,446	2265	≥	12,705
2061		101,992	22C5	⋅	9,551
002B	+	80,445	2113	ℓ	8,675
2208	∋	52,691	20D7	⃗	7,464
2264	≤	42,824	2223	|	7,380
002F	/	30,427	232A	⟩	7,083
2211	∑	26,944	2329	⟨	7,078
221E	∞	22,153	2282	⊂	5,993
222B	∫	21,131	2229	∩	5,636
003C	<	18,134	2026	…	4,953
002A	∗	16,917	2272	≲	4,832
02C6	ˆ	16,261	222A	∪	4,359
003E	>	13,839	2260	≠	4,170
2265	≥	12,705	2207	∇	3,143
02DC	˜	12,516	02C9	¯	3,096
2192	→	9,613	2216	\	2,963
22C5	⋅	9,551	2225	∥	2,786
22EF	⋯	9,411	2218	∘	2,572

43 (Raw)			43 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	142,136	02C6	ˆ	16,016
2061		129,075	222B	∫	11,717
002C	,	116,982	2282	⊂	11,225
2208	∋	82,678	2113	ℓ	11,199
002D	−	76,680	22C5	⋅	11,032
002B	+	46,735	2223	|	10,339
002A	∗	40,104	02C9	¯	7,062
2192	→	20,961	2265	≥	6,900
002F	/	20,123	2218	∘	6,403
221E	∞	19,515	232A	⟩	6,164
2264	≤	18,578	2329	⟨	6,160
2211	∑	16,465	2229	∩	5,578
02C6	ˆ	16,016	2032	′	5,411
02DC	˜	12,161	2026	…	5,124
222B	∫	11,717	21A6	⟼	4,359
2282	⊂	11,225	2260	≠	4,145
2113	ℓ	11,199	222A	∪	3,961
22C5	⋅	11,032	2286	⊆	3,430
2297	⊗	10,985	2225	∥	3,234
00D7	×	10,549	2295	⊕	3,225

44 (Raw)			44 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
002D	−	129,566	222B	∫	29,323
003D	=	125,733	22C5	⋅	14,275
002C	,	118,622	2265	≥	11,648
2061		112,743	02C6	ˆ	9,941
002B	+	78,300	2218	∘	8,614
2208	∋	56,155	2032	′	7,043
221E	∞	30,759	2223	|	6,433
002F	/	30,596	2282	⊂	6,135
222B	∫	29,323	232A	⟩	5,986
2264	≤	18,948	2329	⟨	5,986
02DC	˜	14,695	20D7	⃗	5,864
002A	∗	14,397	0022	“	5,729
22C5	⋅	14,275	2026	…	5,580
003E	>	14,032	2229	∩	3,941
2211	∑	13,788	21A6	⟼	3,657
003C	<	13,652	0021	!	3,616
2202	∂	11,824	02C9	¯	3,318
2265	≥	11,648	2260	≠	2,749
02C6	ˆ	9,941	2207	∇	2,519
2192	→	9,765	2200	∀	2,465

45 (Raw)			45 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
2061		139,490	222B	∫	22,897
002D	−	139,290	22C5	⋅	11,947
003D	=	126,071	02C6	ˆ	10,658
002C	,	111,508	2265	≥	10,204
002B	+	91,861	00B1	±	6,700
2208	∋	52,295	232A	⟩	4,920
221E	∞	31,613	2329	⟨	4,920
2264	≤	29,942	2113	ℓ	4,757
222B	∫	22,897	2223	|	4,230
003C	<	19,592	02C9	¯	3,740
002F	/	19,483	2032	′	3,522
002A	∗	18,448	2282	⊂	3,268
02DC	˜	15,797	2200	∀	2,977
2192	→	15,688	02D8	˘	2,705
003E	>	15,034	2026	…	2,451
22C5	⋅	11,947	2260	≠	2,433
2211	∑	11,766	002E	.	2,251
2202	∂	11,675	2229	∩	2,033
02C6	ˆ	10,658	222A	∪	1,870
2265	≥	10,204	2020	†	1,815

46 (Raw)			46 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	129,731	02C6	ˆ	10,938
2061		119,764	2265	≥	9,692
002C	,	105,127	2282	⊂	8,841
002D	−	79,693	22C5	⋅	8,492
2208	∋	69,453	2218	∘	8,485
002B	+	52,830	2223	|	7,831
002A	∗	51,675	2026	…	7,673
2297	⊗	26,668	222B	∫	7,590
2264	≤	26,312	2113	ℓ	6,208
2192	→	22,970	2229	∩	5,983
221E	∞	21,247	2295	⊕	5,429
2211	∑	19,117	232A	⟩	5,422
002F	/	18,570	2329	⟨	5,371
003C	<	14,671	2032	′	5,060
02DC	˜	13,945	02C9	¯	4,586
003E	>	11,647	222A	∪	3,994
22EF	⋯	11,039	2260	≠	3,942
02C6	ˆ	10,938	2286	⊆	3,884
2265	≥	9,692	003A	:	3,278
00AF	¯	9,156	21A6	⟼	3,219

47 (Raw)			47 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	135,305	2265	≥	11,020
2061		126,499	222B	∫	9,788
002C	,	104,307	2026	…	9,385
002D	−	99,526	2113	ℓ	8,666
002B	+	64,394	02C6	ˆ	8,553
2208	∋	61,870	22C5	⋅	7,394
002A	∗	43,601	2223	|	7,262
2264	≤	27,630	232A	⟩	6,555
221E	∞	25,012	2329	⟨	5,915
002F	/	19,192	2282	⊂	5,818
2192	→	18,783	2295	⊕	5,341
2297	⊗	17,881	2229	∩	4,799
2211	∑	16,658	2218	∘	4,574
02DC	˜	16,438	2032	′	4,354
003C	<	14,886	2260	≠	4,271
003E	>	12,269	02C9	¯	4,003
2265	≥	11,020	2286	⊆	3,206
22EF	⋯	10,365	222A	∪	2,457
222B	∫	9,788	2207	∇	2,323
2026	…	9,385	22A5	⊥	2,256

49 (Raw)			49 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
2061		139,889	222B	∫	19,720
003D	=	117,434	2207	∇	15,422
002C	,	112,284	22C5	⋅	12,966
002D	−	102,962	2265	≥	12,137
002B	+	79,790	02C9	¯	9,396
2208	∋	49,740	2216	\	8,953
2202	∂	31,383	002E	.	8,742
2264	≤	29,425	2223	|	8,192
2192	→	19,995	2229	∩	7,746
222B	∫	19,720	02C6	ˆ	7,077
221E	∞	16,819	2282	⊂	7,018
003C	<	15,749	2113	ℓ	4,982
002F	/	15,719	2218	∘	4,718
2207	∇	15,422	222A	∪	4,168
003E	>	15,262	2260	≠	3,596
002A	∗	14,147	0022	“	3,392
02DC	˜	13,586	2026	…	3,332
22C5	⋅	12,966	2200	∀	3,228
2265	≥	12,137	00B1	±	2,987
00AF	¯	10,685	2329	⟨	2,975

51 (Raw)			51 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	153,205	2265	≥	13,693
002C	,	119,811	22C5	⋅	12,395
2061		117,833	2032	′	11,816
002D	−	111,424	2113	ℓ	10,096
002B	+	82,978	2026	…	9,478
2208	∋	45,833	2282	⊂	8,813
2192	→	21,252	2229	∩	8,128
002F	/	20,026	2260	≠	8,104
2264	≤	18,799	222A	∪	7,270
002A	∗	15,662	2223	|	5,594
02DC	˜	14,853	02C9	¯	5,469
2265	≥	13,693	00B1	±	4,320
22C5	⋅	12,395	232A	⟩	4,253
003E	>	12,151	2329	⟨	4,253
003C	<	12,137	02C6	ˆ	4,195
2032	′	11,816	0022	“	3,913
00AF	¯	11,073	2295	⊕	3,510
22EF	⋯	10,633	2218	∘	3,453
2113	ℓ	10,096	2286	⊆	3,180
00D7	×	10,001	2219	•	3,170

52 (Raw)			52 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	133,289	2265	≥	13,934
002D	−	122,426	2229	∩	13,305
002C	,	110,388	2026	…	12,252
2061		99,526	2282	⊂	9,607
002B	+	91,840	02C6	ˆ	9,251
2208	∋	47,202	222A	∪	8,355
2264	≤	25,862	22C5	⋅	8,224
002F	/	22,847	2113	ℓ	8,013
002A	∗	22,468	2223	|	7,349
22EF	⋯	20,529	2216	\	5,323
2192	→	16,070	2260	≠	5,273
2211	∑	13,957	2218	∘	5,185
2265	≥	13,934	02C9	¯	4,530
2229	∩	13,305	2329	⟨	4,216
003E	>	13,015	232A	⟩	4,028
00D7	×	12,264	2286	⊆	3,980
003C	<	12,258	2295	⊕	3,850
2026	…	12,252	222B	∫	3,800
02DC	˜	11,078	0022	“	3,726
2282	⊂	9,607	2032	′	3,330

53 (Raw)			53 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	137,088	2207	∇	15,088
002C	,	116,679	02C9	¯	12,580
002D	−	106,105	22C5	⋅	12,170
2061		91,929	02C6	ˆ	11,838
002B	+	79,338	2227	∧	9,666
2208	∋	38,087	2223	|	9,194
002A	∗	33,185	2265	≥	7,611
2202	∂	26,256	2282	⊂	7,435
02DC	˜	25,523	222B	∫	7,002
2192	→	22,506	2218	∘	6,642
002F	/	17,708	2026	…	5,904
00D7	×	15,835	232A	⟩	5,608
2207	∇	15,088	2329	⟨	5,595
2264	≤	14,496	2295	⊕	5,227
00AF	¯	13,815	2229	∩	5,066
02C9	¯	12,580	2113	ℓ	5,025
221E	∞	12,487	2260	≠	4,506
22C5	⋅	12,170	0022	“	3,549
02C6	ˆ	11,838	2032	′	3,465
003E	>	11,602	00B1	±	3,465

54 (Raw)			54 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
2061		133,174	2229	∩	17,608
003D	=	121,521	2282	⊂	16,122
2208	∋	99,530	2265	≥	14,562
002C	,	81,624	222A	∪	13,650
002D	−	64,297	2286	⊆	11,810
002B	+	48,925	2218	∘	9,912
2192	→	34,981	02C9	¯	8,967
2264	≤	30,516	003A	:	8,657
002A	∗	27,347	2223	|	7,828
003C	<	20,204	2216	\	7,233
2229	∩	17,608	22C5	⋅	7,143
2282	⊂	16,122	2260	≠	6,961
00D7	×	15,507	02C6	ˆ	6,214
2265	≥	14,562	2227	∧	5,579
222A	∪	13,650	2329	⟨	4,819
002F	/	13,605	2205	∅	4,729
00AF	¯	13,527	232A	⟩	4,423
221E	∞	13,135	2113	ℓ	3,070
003E	>	13,073	2026	…	2,909
2286	⊆	11,810	2209	∉	2,896

55 (Raw)			55 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	106,032	2218	∘	12,872
002D	−	95,104	02C6	ˆ	11,207
2061		90,334	2227	∧	10,324
002C	,	90,017	003A	:	9,970
002B	+	66,941	2219	•	8,494
002A	∗	62,257	2245	≅	8,417
2192	→	60,182	2265	≥	8,333
2208	∋	34,149	02C9	¯	7,807
2297	⊗	22,567	2223	|	7,489
00D7	×	22,405	22C5	⋅	6,724
002F	/	21,702	2026	…	6,630
003E	>	20,985	0022	“	6,511
02DC	˜	15,137	2295	⊕	6,083
00AF	¯	14,625	2282	⊂	6,063
22EF	⋯	12,917	2113	ℓ	5,541
2218	∘	12,872	2229	∩	5,084
2264	≤	12,686	222A	∪	5,075
02C6	ˆ	11,207	2032	′	4,074
221E	∞	11,093	2243	≃	3,675
003C	<	10,684	232A	⟩	3,591

57 (Raw)			57 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	127,032	02C6	ˆ	11,266
002D	−	115,373	2282	⊂	10,380
002C	,	111,096	222A	∪	9,801
2061		101,890	2265	≥	9,156
002B	+	73,636	2229	∩	9,101
2208	∋	36,123	2223	|	7,849
002A	∗	32,186	22C5	⋅	7,495
2192	→	31,976	2026	…	7,460
00D7	×	22,396	2218	∘	7,364
002F	/	22,047	02C9	¯	7,092
02DC	˜	20,445	00B1	±	5,857
2202	∂	20,098	2295	⊕	5,495
003E	>	14,049	2113	ℓ	5,349
2264	≤	13,511	2260	≠	5,273
00AF	¯	11,950	2245	≅	4,867
02C6	ˆ	11,266	232A	⟩	4,524
22EF	⋯	11,234	2329	⟨	4,512
2297	⊗	10,451	0022	“	4,347
2282	⊂	10,380	2216	\	4,310
221E	∞	9,895	2032	′	4,221

58 (Raw)			58 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	125,163	222B	$\int$	11,417
002D	−	114,609	02C9	¯	10,377
002C	,	114,297	02C6	ˆ	10,298
2061		100,482	2207	∇	10,111
002B	+	80,065	2223	$\vert$	9,791
2208	$\ni$	43,340	22C5	$\cdot$	9,643
002A	$*$	33,350	2265	$\geq$	8,264
2192	$\rightarrow$	24,185	2227	$\wedge$	7,185
2202	∂	24,182	2218	$\circ$	6,635
02DC	˜	22,096	2282	$\subset$	6,288
002F	/	19,615	2032	$\prime$	5,889
221E	∞	18,266	232A	$\rangle$	5,236
2264	$\leq$	17,882	2329	$\langle$	5,034
00D7	$\times$	12,706	2113	ℓ	4,914
00AF	¯	12,631	2026	$\ldots$	4,535
003E	$>$	12,055	2229	$\cap$	4,403
2211	$\sum$	11,541	2295	$\oplus$	4,282
222B	$\int$	11,417	00B1	$\pm$	3,541
02C9	¯	10,377	2260	$\neq$	3,462
02C6	ˆ	10,298	21A6	$\longmapsto$	2,748

60 (Raw)			60 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
2061		132,048	2265	$\geq$	20,420
002D	−	127,862	222B	$\int$	16,484
003D	=	118,189	2223	$\vert$	9,771
002C	,	113,632	02C6	ˆ	9,655
002B	+	74,205	2026	$\ldots$	8,981
2208	$\ni$	42,239	22C5	$\cdot$	7,929
2264	$\leq$	37,545	2113	ℓ	7,764
002F	/	30,572	02C9	¯	6,871
221E	∞	25,764	2229	$\cap$	4,327
2265	$\geq$	20,420	232A	$\rangle$	3,873
003E	$>$	19,029	2329	$\langle$	3,842
2211	$\sum$	18,789	2282	$\subset$	3,416
003C	$<$	18,297	2218	$\circ$	3,212
222B	$\int$	16,484	2032	$\prime$	3,122
2192	$\rightarrow$	15,614	2260	$\neq$	3,103
002A	$*$	14,306	222A	$\cup$	2,827
02DC	˜	14,058	220F	$\prod$	2,711
2223	$\vert$	9,771	20D7	$\vec{}$	2,668
02C6	ˆ	9,655	0021	!	2,511
2026	$\ldots$	8,981	2207	∇	2,339

62 (Raw)			62 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
2061		137,165	2223	$\vert$	22,298
002D	−	137,043	02C6	ˆ	20,876
003D	=	127,241	222B	$\int$	16,128
002C	,	109,661	2265	$\geq$	15,243
002B	+	82,846	2026	$\ldots$	9,784
2264	$\leq$	35,848	22C5	$\cdot$	8,714
002F	/	31,545	2113	ℓ	5,568
2208	$\ni$	31,389	02C9	¯	4,117
2223	$\vert$	22,298	2032	$\prime$	3,845
221E	∞	21,697	20D7	$\vec{}$	3,533
02C6	ˆ	20,876	223C	$\sim$	2,573
2211	$\sum$	20,431	222A	$\cup$	2,486
00AF	¯	18,696	2218	$\circ$	2,486
003E	$>$	16,510	2260	$\neq$	2,457
222B	$\int$	16,128	220F	$\prod$	2,411
2265	$\geq$	15,243	0021	!	1,856
003C	$<$	14,451	224D	$\asymp$	1,833
2192	$\rightarrow$	13,769	232A	$\rangle$	1,827
002A	$*$	13,722	0022	“	1,682
2026	$\ldots$	9,784	2229	$\cap$	1,671

65 (Raw)			65 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
002D	−	145,635	22C5	$\cdot$	12,534
003D	=	140,894	222B	$\int$	12,253
002C	,	132,853	02C6	ˆ	10,916
2061		110,559	2026	$\ldots$	8,817
002B	+	102,623	2265	$\geq$	8,350
2208	$\ni$	36,009	2113	ℓ	8,148
2264	$\leq$	28,921	2207	∇	7,005
002F	/	23,874	02C9	¯	5,708
2211	$\sum$	17,451	2223	$\vert$	4,838
221E	∞	14,820	002E	.	4,317
002A	$*$	13,979	2032	$\prime$	4,029
2192	$\rightarrow$	13,810	2282	$\subset$	3,267
22C5	$\cdot$	12,534	2229	$\cap$	3,127
222B	$\int$	12,253	2260	$\neq$	2,976
02DC	˜	11,851	00B1	$\pm$	2,875
003C	$<$	11,775	2218	$\circ$	2,498
02C6	ˆ	10,916	20D7	$\vec{}$	2,142
003E	$>$	10,833	0021	!	2,095
00AF	¯	10,380	222A	$\cup$	2,092
22EF	$\cdots$	10,118	2329	$\langle$	1,890

68 (Raw)			68 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
002C	,	134,116	2026	$\ldots$	21,433
003D	=	133,161	2265	$\geq$	12,337
002D	−	121,499	2223	$\vert$	8,657
2061		115,627	2229	$\cap$	8,514
002B	+	85,277	20D7	$\vec{}$	7,809
2208	$\ni$	40,722	22C5	$\cdot$	7,715
2264	$\leq$	24,322	02C6	ˆ	6,684
2026	$\ldots$	21,433	2113	ℓ	6,498
002F	/	18,988	222A	$\cup$	5,835
2192	$\rightarrow$	18,176	2218	$\circ$	5,525
003E	$>$	17,273	2282	$\subset$	5,455
002A	$*$	17,178	2260	$\neq$	4,731
003C	$<$	15,451	0022	“	4,403
22EF	$\cdots$	15,180	22A0	$\boxtimes$	3,977
2211	$\sum$	13,271	21A6	$\longmapsto$	3,807
2265	$\geq$	12,337	02C9	¯	3,618
00AF	¯	10,886	222B	$\int$	3,138
2223	$\vert$	8,657	232A	$\rangle$	3,068
2229	$\cap$	8,514	2329	$\langle$	3,050
221E	∞	8,226	220F	$\prod$	2,758

70 (Raw)			70 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	156,224	22C5	$\cdot$	12,898
002C	,	112,541	2207	∇	12,243
002D	−	109,493	02C9	¯	12,042
2061		89,343	002E	.	11,875
002B	+	77,767	2218	$\circ$	11,179
2202	∂	45,942	2026	$\ldots$	10,201
2208	$\ni$	35,947	2223	$\vert$	9,747
002A	$*$	29,253	222B	$\int$	8,131
2211	$\sum$	22,887	02C6	ˆ	7,987
02DC	˜	22,755	2282	$\subset$	6,412
2192	$\rightarrow$	19,040	2227	$\wedge$	6,297
00D7	$\times$	18,592	232A	$\rangle$	5,417
002F	/	16,119	2329	$\langle$	5,417
22C5	$\cdot$	12,898	2260	$\neq$	5,100
2207	∇	12,243	2032	$\prime$	4,600
02C9	¯	12,042	2265	$\geq$	4,571
002E	.	11,875	2113	ℓ	4,422
2264	$\leq$	11,323	2229	$\cap$	4,169
2218	$\circ$	11,179	2295	$\oplus$	3,663
2026	$\ldots$	10,201	00B1	$\pm$	3,404

74 (Raw)			74 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
2061		126,510	2207	∇	37,506
002C	,	125,238	222B	$\int$	29,777
003D	=	104,889	2216	$\backslash$	19,615
002D	−	86,997	002E	.	11,519
002B	+	70,280	2229	$\cap$	10,406
2208	$\ni$	58,638	2265	$\geq$	9,159
2207	∇	37,506	222A	$\cup$	8,303
2264	$\leq$	37,115	2282	$\subset$	7,484
2202	∂	30,756	22C5	$\cdot$	7,215
222B	$\int$	29,777	2223	$\vert$	6,175
2192	$\rightarrow$	26,329	00B1	$\pm$	5,918
00AF	¯	20,777	02C9	¯	4,145
2216	$\backslash$	19,615	232A	$\rangle$	3,839
221E	∞	17,952	2329	$\langle$	3,839
003C	$<$	12,412	2113	ℓ	3,693
003E	$>$	11,837	2286	$\subseteq$	3,595
02DC	˜	11,556	02C6	ˆ	3,411
002E	.	11,519	2026	$\ldots$	3,277
002F	/	11,116	2295	$\oplus$	3,081
00D7	$\times$	10,724	223C	$\sim$	3,008

76 (Raw)			76 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
2061		123,589	22C5	$\cdot$	34,897
002C	,	115,306	222B	$\int$	27,899
002D	−	110,406	2207	∇	26,429
003D	=	105,738	2113	ℓ	17,120
002B	+	90,715	02C9	¯	10,945
2264	$\leq$	39,612	2265	$\geq$	9,059
2208	$\ni$	35,665	02C6	ˆ	8,828
22C5	$\cdot$	34,897	2223	$\vert$	5,001
2202	∂	30,589	25B3	$\triangle$	3,392
221E	∞	30,247	2218	$\circ$	3,291
222B	$\int$	27,899	232A	$\rangle$	3,124
2207	∇	26,429	2329	$\langle$	3,124
02DC	˜	20,846	2229	$\cap$	2,865
002F	/	19,015	2282	$\subset$	2,394
003E	$>$	18,331	224D	$\asymp$	2,246
2113	ℓ	17,120	002E	.	2,126
003C	$<$	15,826	2227	$\wedge$	2,024
002A	$*$	11,934	2260	$\neq$	1,848
2192	$\rightarrow$	11,795	22A5	$\perp$	1,700
02C9	¯	10,945	0022	“	1,664

78 (Raw)			78 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
002D	−	153,202	222B	$\int$	35,214
003D	=	145,727	02C9	¯	12,241
002C	,	130,743	22C5	$\cdot$	8,640
2061		117,267	2265	$\geq$	7,646
002B	+	109,587	00B1	$\pm$	5,966
222B	$\int$	35,214	2026	$\ldots$	4,423
2264	$\leq$	28,905	2113	ℓ	4,251
002F	/	28,391	02C6	ˆ	3,840
2211	$\sum$	27,225	2207	∇	3,531
2208	$\ni$	26,368	0021	!	3,120
02DC	˜	15,087	2A7D	$\leqslant$	2,811
22EF	$\cdots$	13,166	2032	$\prime$	2,743
002A	$*$	12,618	2193	$\downarrow$	2,605
02C9	¯	12,241	2223	$\vert$	2,571
003C	$<$	11,075	2282	$\subset$	1,817
2192	$\rightarrow$	10,663	0022	“	1,817
2202	∂	9,703	2219	$\bullet$	1,748
221E	∞	9,292	2260	$\neq$	1,680
003E	$>$	8,949	224D	$\asymp$	1,680
22C5	$\cdot$	8,640	232A	$\rangle$	1,645

80 (Raw)			80 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
002D	−	138,861	2223	⏐	19,954
2061		135,754	222B	∫	19,708
003D	=	124,304	232A	⟩	13,493
002C	,	110,320	2329	⟨	12,021
002B	+	77,526	2113	ℓ	10,958
2208	∋	32,384	2032	′	10,058
02DC	̃	29,031	22C5	⋅	9,322
2264	≤	23,225	2218	∘	9,322
2223	⏐	19,954	0127	ℏ	8,505
222B	∫	19,708	02C9	¯	7,441
221E	∞	18,645	02C6	̂	7,196
2211	∑	18,400	0021	!	6,051
002A	∗	15,783	2265	≥	5,724
002F	/	14,638	2229	∩	5,233
2202	∂	13,984	2260	≠	5,152
232A	⟩	13,493	002E	.	4,334
003C	<	13,002	00B1	±	4,252
003E	>	12,185	2225	∥	3,516
2329	⟨	12,021	2026	…	3,352
2113	ℓ	10,958	2016	‖	2,780

81 (Raw)			81 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	139,464	02C6	̂	13,205
002D	−	125,542	22C5	⋅	10,731
002C	,	115,320	2026	…	8,654
2061		92,664	02C9	¯	8,019
002B	+	83,407	2113	ℓ	7,778
2208	∋	38,178	2265	≥	7,588
2297	⨂	32,616	2218	∘	7,521
002A	∗	29,049	2223	⏐	7,416
02DC	̃	20,803	232A	⟩	7,370
002F	/	16,270	222B	∫	6,664
2264	≤	16,152	2329	⟨	6,373
00AF	¯	15,174	00B1	±	5,421
2192	→	14,903	2207	∇	4,752
221E	∞	14,562	2227	∧	4,457
2211	∑	14,513	2032	′	4,174
02C6	̂	13,205	2282	⊂	3,950
2202	∂	13,091	2260	≠	3,732
22EF	⋯	10,887	2295	⊕	3,590
22C5	⋅	10,731	0022	“	3,141
003C	<	9,376	0127	ℏ	2,913

82 (Raw)			82 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
002D	−	134,826	2265	≥	17,820
002C	,	126,000	2113	ℓ	10,714
003D	=	116,334	222B	∫	10,351
2061		109,076	02C6	̂	10,079
002B	+	82,175	22C5	⋅	8,702
2208	∋	40,757	2223	⏐	8,244
2264	≤	31,995	02C9	¯	8,129
002F	/	26,477	2026	…	7,157
221E	∞	20,744	2032	′	5,875
2211	∑	18,706	232A	⟩	5,106
2265	≥	17,820	2329	⟨	4,861
002A	∗	17,241	2229	∩	4,629
003E	>	16,739	2282	⊂	3,882
003C	<	16,597	2260	≠	3,716
02DC	̃	14,329	20D7	⃗	3,344
2192	→	13,306	0022	“	3,284
00AF	¯	12,795	222A	∪	3,130
2113	ℓ	10,714	220F	∏	3,066
222B	∫	10,351	00B1	±	3,017
02C6	̂	10,079	2216	∖	2,693

83 (Raw)			83 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	138,046	2207	∇	18,890
002C	,	104,903	02C6	̂	11,681
002D	−	95,641	22C5	⋅	11,503
2061		94,628	2223	⏐	9,198
002B	+	87,343	222B	∫	9,045
2208	∋	43,760	02C9	¯	8,349
2202	∂	34,853	2032	′	8,146
00AF	¯	29,177	2265	≥	6,220
2192	→	23,438	2227	∧	6,170
002A	∗	22,969	2218	∘	6,157
02DC	̃	19,536	2282	⊂	5,523
2207	∇	18,890	002E	.	5,485
003E	>	18,206	02D8	̆	5,333
00D7	×	15,912	232A	⟩	5,181
002F	/	15,773	2329	⟨	5,181
003C	<	14,683	00B1	±	4,903
2297	⨂	13,188	2026	…	4,358
02C6	̂	11,681	2295	⊕	4,244
22C5	⋅	11,503	2229	∩	3,674
221E	∞	10,997	2260	≠	3,661

85 (Raw)			85 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
002C	,	157,890	2113	ℓ	34,250
003D	=	115,939	20D7	⃗	21,152
2061		99,389	02C6	̂	17,346
002D	−	71,156	02C9	¯	16,373
2208	∋	63,633	2282	⊂	10,354
002B	+	54,606	2216	∖	8,673
2192	→	40,357	2329	⟨	8,230
2113	ℓ	34,250	232A	⟩	8,142
002F	/	31,153	2229	∩	8,142
002A	∗	25,754	222B	∫	7,699
00D7	×	23,984	2265	≥	6,283
02DC	̃	21,948	2207	∇	5,752
20D7	⃗	21,152	2223	⏐	5,133
003E	>	19,824	00B1	±	4,867
02C6	̂	17,346	2260	≠	4,779
02C9	¯	16,373	2219	•	4,513
2264	≤	15,045	2227	∧	3,451
003C	<	15,045	2026	…	3,451
221E	∞	11,593	0022	“	3,186
2211	∑	11,062	2200	∀	2,920

86 (Raw)			86 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
2061		138,794	222B	∫	27,836
002D	−	125,999	22C5	⋅	24,119
002C	,	118,997	2207	∇	22,606
002B	+	101,404	2265	≥	17,808
003D	=	98,595	02C9	¯	15,215
2208	∋	61,551	02C6	̂	7,693
2264	≤	50,745	2223	⏐	4,495
222B	∫	27,836	0022	“	3,630
003E	>	27,750	2209	∉	3,501
22C5	⋅	24,119	00B1	±	3,328
2207	∇	22,606	25B3	△	3,025
221E	∞	21,396	232A	⟩	3,025
003C	<	19,018	2329	⟨	3,025
2265	≥	17,808	2282	⊂	2,939
02C9	¯	15,215	2229	∩	2,939
02DC	̃	13,313	002E	.	2,377
2192	→	13,140	222A	∪	1,728
002A	∗	12,621	2032	′	1,685
002F	/	10,244	2225	∥	1,383
2202	∂	10,157	2113	ℓ	1,123

90 (Raw)			90 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	149,448	2265	≥	23,011
2061		130,416	2026	…	17,062
002C	,	123,800	22C5	⋅	11,015
002D	−	105,650	02C6	̂	9,594
002B	+	80,442	02C9	¯	9,192
2208	∋	57,019	2223	⏐	6,203
2264	≤	34,272	2229	∩	5,988
002A	∗	26,304	222B	∫	5,125
2265	≥	23,011	2282	⊂	4,880
002F	/	20,424	222A	∪	4,576
2026	…	17,062	2113	ℓ	4,155
2211	∑	16,700	2260	≠	3,694
003E	>	14,896	232A	⟩	3,577
003C	<	14,602	2329	⟨	3,577
22C5	⋅	11,015	2286	⊆	3,508
2192	→	10,780	2218	∘	3,273
02C6	̂	9,594	0022	“	3,194
22EF	⋯	9,300	002E	.	2,812
02C9	¯	9,192	2200	∀	1,960
221E	∞	8,448	2032	′	1,930

91 (Raw)			91 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
002D	−	137,337	2265	≥	16,936
002C	,	129,137	2223	⏐	14,831
003D	=	129,077	222B	∫	13,620
2061		112,419	02C6	̂	10,979
002B	+	109,282	2032	′	9,312
2208	∋	41,695	22C5	⋅	9,133
2264	≤	39,908	2026	…	8,775
221E	∞	24,163	2113	ℓ	6,274
003C	<	18,842	20D7	⃗	5,082
002F	/	18,782	2229	∩	4,546
2265	≥	16,936	224D	≍	4,308
002A	∗	16,658	02C9	¯	3,951
003E	>	16,221	230B	⌋	2,303
2223	⏐	14,831	230A	⌊	2,303
222B	∫	13,620	0022	“	2,104
02C6	̂	10,979	222A	∪	1,945
2192	→	10,106	0023	#	1,945
22EF	⋯	9,728	2260	≠	1,886
2032	′	9,312	2218	∘	1,886
2211	∑	9,153	2227	∧	1,588

92 (Raw)			92 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
002D	−	165,483	2223	⏐	24,467
003D	=	139,247	2113	ℓ	22,235
2061		125,939	2265	≥	21,077
002B	+	103,935	2026	…	11,054
002C	,	93,449	02C6	̂	7,011
2264	≤	34,048	2032	′	6,127
2208	∋	28,847	22C5	⋅	5,327
002F	/	25,689	222B	∫	4,969
2223	⏐	24,467	2229	∩	4,358
2113	ℓ	22,235	2260	≠	3,326
2265	≥	21,077	2282	⊂	2,779
003E	>	19,329	0021	!	2,568
003C	<	16,908	02C9	¯	2,505
2211	∑	16,613	222A	∪	2,358
002A	∗	12,781	0022	“	2,316
221E	∞	12,465	2207	∇	2,126
2192	→	11,138	2299	⊙	2,021
2026	…	11,054	002E	.	1,958
02DC	̃	10,528	2295	⊕	1,789
22EF	⋯	8,464	230B	⌋	1,663

93 (Raw)			93 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
2061		131,681	02C9	¯	13,861
002C	,	130,998	2223	|	13,736
003D	=	122,604	02C6	ˆ	12,030
002D	−	105,514	22C5	⋅	11,833
002B	+	86,737	2026	…	11,229
2208	∋	53,554	2265	≥	10,796
2264	≤	25,963	222B	∫	9,969
002A	∗	16,834	002E	.	7,468
2202	∂	16,453	2113	ℓ	6,654
02DC	˜	15,777	2200	∀	4,928
003E	>	15,436	2260	≠	4,836
221E	∞	15,167	2282	⊂	4,620
2192	→	14,766	2229	∩	3,642
22EF	⋯	14,248	2032	′	3,379
02C9	¯	13,861	232A	⟩	3,104
2223	|	13,736	2329	⟨	3,104
02C6	ˆ	12,030	2218	∘	2,717
2211	∑	11,944	2225	∥	2,684
22C5	⋅	11,833	2216	\	2,644
002F	/	11,774	0022	“	2,625

94 (Raw)			94 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	149,341	2026	…	16,073
2061		121,590	2265	≥	13,223
002C	,	120,445	02C6	ˆ	12,807
002D	−	117,173	2223	|	11,276
002B	+	95,802	2229	∩	7,973
2208	∋	47,576	2113	ℓ	7,466
002F	/	29,714	02C9	¯	7,187
2264	≤	25,672	22C5	⋅	6,622
2211	∑	18,142	222B	∫	6,073
2026	…	16,073	222A	∪	6,047
002A	∗	14,258	2260	≠	4,960
2265	≥	13,223	2124	ℤ	4,364
22EF	⋯	12,896	224D	≍	4,358
02C6	ˆ	12,807	2282	⊂	3,514
221E	∞	11,677	232A	⟩	3,166
2223	|	11,276	2329	⟨	3,160
2192	→	10,923	2032	′	2,870
003E	>	9,698	22A5	⊥	2,828
003C	<	9,625	220F	∏	2,812
02DC	˜	8,522	2295	⊕	2,691

97 (Raw)			97 (Sig.)		
Ucode	Op	Freq	Ucode	Op	Freq
003D	=	254,011	222B	∫	28,483
2061		186,226	22C5	⋅	17,486
002B	+	135,749	220F	∏	8,833
002D	−	125,473		.	
002C	,	58,409	22EE	⋮	5,408
222B	∫	28,483	2260	≠	4,867
002F	/	27,402	02C6	ˆ	4,687
22EF	⋯	19,289	222A	∪	3,966
02DC	˜	19,109	2248	≈	3,785
22C5	⋅	17,486	224D	≍	2,884
2192	→	17,126	2218	∘	2,704
2264	≤	12,619	2223	|	2,343
2202	∂	9,374	00B1	±	1,802
220F	∏	8,833	2026	…	1,622
2208	∋	7,571	25B3	△	1,442
2211	∑	7,391	2265	≥	1,442
221E	∞	5,768	0024	$	1,442
			25A1	■	1,261
22EE	⋮	5,408	2219	∙	1,081
003E	>	5,228	223C	∼	901
2260	≠	4,867	232A	⟩	721

Appendix E

Portion of Unique Expressions

Note:
The tables given in the following pages give the number of subexpressions, number of distinct subexpressions and the percentage of distinct subexpressions sorted by size in each subject classification.

00			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	11843	3700	31
2	5394	965	17
3	2539	681	26
4	1402	498	35
5	766	342	44
6	393	203	51
7	351	208	59
8	172	117	68
9	113	95	84
10	84	71	84
11	70	59	84
12	51	44	86
13	70	53	75
14	43	34	79
15	34	23	67

01			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	28436	8267	29
2	15941	2236	14
3	5432	1676	30
4	2560	1116	43
5	1456	819	56
6	645	440	68
7	559	371	66
8	294	230	78
9	245	186	75
10	199	161	80
11	140	124	88
12	88	79	89
13	102	91	89
14	62	56	90
15	71	61	85

03			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	318000	58555	18
2	169302	10612	6
3	63952	11868	18
4	31485	8850	28
5	16688	6377	38
6	9726	4035	41
7	6271	3258	51
8	3878	2082	53
9	3395	1887	55
10	2196	1255	57
11	1977	1222	61
12	1229	798	64
13	1049	782	74
14	868	652	75
15	776	577	74

05			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	1862590	369073	19
2	846825	30741	3
3	388504	52277	13
4	189381	50200	26
5	135513	44828	33
6	59826	29245	48
7	57847	27343	47
8	30436	17307	56
9	26467	16120	60
10	16469	10822	65
11	15243	10217	67
12	10447	7446	71
13	9488	6950	73
14	6915	5208	75
15	6824	5170	75

06			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	202473	45629	22
2	106855	8352	7
3	41626	8408	20
4	17987	6496	36
5	11830	5102	43
6	4692	2711	57
7	4650	2587	55
8	2315	1562	67
9	2116	1487	70
10	1319	1016	77
11	1476	1034	70
12	796	665	83
13	802	646	80
14	531	450	84
15	594	489	82

08			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	58407	13311	22
2	31598	3094	9
3	11881	2706	22
4	5412	1900	35
5	3111	1375	44
6	1664	793	47
7	1135	668	58
8	588	397	67
9	454	285	62
10	303	217	71
11	294	225	76
12	226	159	70
13	193	152	78
14	143	123	86
15	191	147	76

11			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	2436305	480023	19
2	1118829	39729	3
3	513041	73095	14
4	253320	69937	27
5	169908	59286	34
6	87256	42085	48
7	68645	34438	50
8	40907	23445	57
9	33558	19803	59
10	22060	14254	64
11	18614	12562	67
12	13216	9341	70
13	11692	8430	72
14	8690	6533	75
15	7857	5969	75

12			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	196947	41977	21
2	102567	8119	7
3	43437	8093	18
4	18223	6528	35
5	10856	4742	43
6	5503	2919	53
7	4208	2288	54
8	2468	1536	62
9	1821	1242	68
10	1105	806	72
11	1033	749	72
12	751	525	69
13	617	523	84
14	475	389	81
15	531	414	77

13			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	1039393	192090	18
2	536897	24376	4
3	212744	34047	16
4	95437	29173	30
5	66957	23628	35
6	28293	14255	50
7	25251	12683	50
8	13060	7756	59
9	11806	7061	59
10	7124	4762	66
11	6374	4374	68
12	4124	3081	74
13	3776	2803	74
14	2856	2215	77
15	2797	2162	77

14			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	4522610	725655	16
2	2402297	61517	2
3	915675	130366	14
4	414842	114617	27
5	264017	92164	34
6	128567	61016	47
7	99130	50431	50
8	56006	32733	58
9	46563	28156	60
10	29302	19200	65
11	24976	17137	68
12	16989	12241	72
13	15344	11148	72
14	11173	8689	77
15	10607	8219	77

15			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	439662	101211	23
2	206652	12918	6
3	86325	15832	18
4	42989	13917	32
5	29849	11231	37
6	14412	7298	50
7	13639	6738	49
8	7506	4329	57
9	6410	3875	60
10	4075	2628	64
11	3746	2468	65
12	2629	1865	70
13	2243	1712	76
14	1564	1232	78
15	1718	1301	75

16			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	1649805	260423	15
2	874555	32074	3
3	337625	48174	14
4	154082	39547	25
5	93883	30963	32
6	43654	19558	44
7	35912	16149	44
8	18284	9952	54
9	15778	8536	54
10	9029	5641	62
11	9035	5582	61
12	5990	3910	65
13	5379	3635	67
14	3933	2789	70
15	3719	2698	72

17			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	1749051	322946	18
2	848804	30731	3
3	364957	50927	13
4	166260	44673	26
5	110973	36607	32
6	53258	24576	46
7	48013	21814	45
8	24228	13608	56
9	21520	12121	56
10	13258	8378	63
11	12087	7546	62
12	8634	6026	69
13	7001	5216	74
14	5344	4091	76
15	5326	4012	75

18			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	810047	158337	19
2	429309	24072	5
3	170158	31612	18
4	75745	23925	31
5	44467	18032	40
6	20933	11088	52
7	17232	9227	53
8	9315	5722	61
9	7283	4773	65
10	4710	3368	71
11	4349	3109	71
12	2898	2210	76
13	2636	2080	78
14	2061	1694	82
15	1817	1529	84

19			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	481175	94843	19
2	246942	14648	5
3	101170	18158	17
4	46196	14153	30
5	29341	11286	38
6	13962	6855	49
7	10946	5673	51
8	6122	3534	57
9	5153	3058	59
10	3005	2005	66
11	2674	1791	66
12	1803	1354	75
13	1647	1237	75
14	1064	881	82
15	948	770	81

20			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	1856163	324378	17
2	970495	36625	3
3	379027	59620	15
4	181108	50609	27
5	105998	39277	37
6	53583	25492	47
7	40846	20820	50
8	23194	13470	58
9	18708	11548	61
10	11708	7767	66
11	10256	7176	69
12	7035	5084	72
13	6491	4762	73
14	4757	3713	78
15	4382	3460	78

22			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	1014177	194406	19
2	534766	25317	4
3	201851	35847	17
4	93329	29214	31
5	58367	22158	37
6	28584	14550	50
7	22019	11649	52
8	13349	8014	60
9	10822	6797	62
10	7407	4888	65
11	6276	4348	69
12	4184	3126	74
13	3767	2855	75
14	2917	2273	77
15	2777	2061	74

26			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	303108	59730	19
2	121118	7255	5
3	73541	9245	12
4	27933	7910	28
5	26028	6265	24
6	9451	4034	42
7	10500	3823	36
8	5204	2596	49
9	4463	2297	51
10	3206	1585	49
11	3028	1623	53
12	1842	1044	56
13	1949	1083	55
14	1348	817	60
15	1194	769	64

28			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	208336	50584	24
2	101720	7749	7
3	42052	8977	21
4	20726	7399	35
5	13106	5566	42
6	6398	3459	54
7	5559	3024	54
8	3244	2111	65
9	2785	1858	66
10	1709	1201	70
11	1641	1218	74
12	1103	807	73
13	1026	780	76
14	719	609	84
15	685	552	80

30			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	536639	116002	21
2	259292	13833	5
3	110650	19626	17
4	53310	16790	31
5	34725	13395	38
6	16955	8800	51
7	14014	7645	54
8	7985	4934	61
9	6460	4160	64
10	4371	2925	66
11	3973	2810	70
12	2676	1977	73
13	2448	1844	75
14	1800	1355	75
15	1811	1420	78

31			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	127453	29714	23
2	59345	4448	7
3	26024	4946	19
4	13149	4157	31
5	8586	3178	37
6	4602	2129	46
7	3310	1772	53
8	2106	1243	59
9	1737	1072	61
10	1251	778	62
11	990	702	70
12	705	513	72
13	626	458	73
14	501	364	72
15	441	328	74

32			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	1496259	273487	18
2	770923	29303	3
3	306450	50190	16
4	143527	42695	29
5	88272	32926	37
6	44007	21255	48
7	34914	17778	50
8	19655	11352	57
9	16097	9942	61
10	10056	6723	66
11	8863	6119	69
12	6038	4418	73
13	5197	3925	75
14	4169	3158	75
15	3949	3042	77

33			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	834116	192489	23
2	333441	12602	3
3	166488	20875	12
4	80932	20830	25
5	64005	20120	31
6	31310	14212	45
7	29266	13346	45
8	18059	9444	52
9	15623	8700	55
10	11083	6513	58
11	9523	5892	61
12	6973	4634	66
13	6059	4188	69
14	4812	3438	71
15	4290	3177	74

34			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	609107	127884	20
2	295024	14099	4
3	122912	20851	16
4	58256	17424	29
5	40076	14483	36
6	19398	9619	49
7	15659	8292	52
8	9715	5562	57
9	8055	4851	60
10	5016	3395	67
11	4446	3009	67
12	2975	2231	74
13	2843	2137	75
14	2064	1632	79
15	2156	1641	76

35			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	1908150	363746	19
2	844311	24032	2
3	398139	48962	12
4	188363	46826	24
5	132814	40389	30
6	73267	30059	41
7	58787	26036	44
8	36283	18593	51
9	28560	15960	55
10	19930	11894	59
11	16770	10287	61
12	12159	8084	66
13	10811	7284	67
14	8407	5883	69
15	7056	5268	74

37			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	1287500	250713	19
2	649444	25929	3
3	265330	44121	16
4	124020	37456	30
5	76094	29821	39
6	39621	20170	50
7	31732	16625	52
8	17795	10727	60
9	14769	9528	64
10	9208	6405	69
11	8501	5923	69
12	5709	4281	74
13	5152	3953	76
14	3699	2929	79
15	3624	2945	81

39			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	108701	27747	25
2	49284	4368	8
3	23134	4336	18
4	10717	3653	34
5	7259	2857	39
6	3541	1842	52
7	3064	1622	52
8	1789	1064	59
9	1549	988	63
10	1042	690	66
11	889	622	69
12	592	471	79
13	593	454	76
14	391	315	80
15	420	347	82

40			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	44237	11560	26
2	18273	1737	9
3	9377	1625	17
4	4210	1303	30
5	3143	1144	36
6	1403	663	47
7	1745	712	40
8	709	420	59
9	890	478	53
10	630	365	57
11	524	312	59
12	279	196	70
13	320	219	68
14	212	169	79
15	201	148	73

41			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	148347	37963	25
2	59219	5244	8
3	36163	6306	17
4	14723	5118	34
5	11910	4306	36
6	5129	2587	50
7	4934	2360	47
8	2560	1567	61
9	2082	1269	60
10	1502	1010	67
11	1372	934	68
12	922	645	69
13	774	591	76
14	566	454	80
15	537	418	77

42			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	644234	136871	21
2	271905	12015	4
3	134664	19672	14
4	70168	18750	26
5	49216	16082	32
6	25636	11158	43
7	20148	9512	47
8	13165	6968	52
9	10361	5859	56
10	7045	4314	61
11	6230	3790	60
12	4049	2763	68
13	3723	2512	67
14	2943	2059	69
15	2461	1803	73

43			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	228780	51021	22
2	117970	8716	7
3	46674	9661	20
4	22452	7668	34
5	13341	5497	41
6	6860	3616	52
7	5044	2883	57
8	3106	1967	63
9	2241	1594	71
10	1555	1121	72
11	1359	1017	74
12	875	698	79
13	847	662	78
14	646	540	83
15	461	391	84

44			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	76709	20608	26
2	33026	3387	10
3	16716	3511	21
4	8001	2859	35
5	6004	2381	39
6	2796	1441	51
7	2556	1342	52
8	1362	820	60
9	1119	703	62
10	720	495	68
11	608	433	71
12	430	323	75
13	436	325	74
14	273	220	80
15	245	195	79

45			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	59733	14903	24
2	26535	2487	9
3	12999	2443	18
4	6219	1968	31
5	3992	1605	40
6	2245	1017	45
7	1809	883	48
8	918	572	62
9	855	498	58
10	535	355	66
11	445	340	76
12	289	224	77
13	291	228	78
14	241	189	78
15	211	166	78

46			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	2099361	370254	17
2	1045720	31996	3
3	440471	62407	14
4	196980	54287	27
5	134053	44409	33
6	60093	28879	48
7	50673	24713	48
8	28840	16724	57
9	24359	14778	60
10	16198	10371	64
11	14567	9596	65
12	9785	6997	71
13	9086	6469	71
14	6517	4935	75
15	6079	4607	75

47			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	987717	197067	19
2	480942	20135	4
3	206756	33809	16
4	95671	28801	30
5	64234	22871	35
6	30748	15024	48
7	25359	13125	51
8	14521	8636	59
9	11819	7565	64
10	7703	5348	69
11	7186	4903	68
12	4637	3518	75
13	4226	3220	76
14	3077	2413	78
15	2995	2335	77

49			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	268967	56299	20
2	134847	7701	5
3	51382	9277	18
4	26086	7657	29
5	16320	5982	36
6	8349	3980	47
7	6963	3517	50
8	4075	2283	56
9	3552	2016	56
10	2147	1396	65
11	1962	1327	67
12	1377	998	72
13	1337	955	71
14	919	718	78
15	820	649	79

51			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	216262	47440	21
2	116429	8772	7
3	40654	8532	20
4	19967	6632	33
5	11493	4761	41
6	6009	3099	51
7	5165	2687	52
8	2931	1876	64
9	2222	1507	67
10	1321	989	74
11	1580	1141	72
12	851	670	78
13	868	692	79
14	647	519	80
15	638	534	83

52			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	504453	110157	21
2	252853	15632	6
3	103264	19414	18
4	47088	15661	33
5	32669	13157	40
6	14529	7677	52
7	13260	7156	53
8	7121	4472	62
9	6013	3975	66
10	3522	2536	72
11	3526	2557	72
12	2190	1651	75
13	2082	1683	80
14	1538	1264	82
15	1596	1294	81

53			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	3138721	531007	16
2	1665838	46274	2
3	633323	95458	15
4	281609	79633	28
5	171690	61013	35
6	88191	41422	46
7	67424	34432	51
8	39140	22774	58
9	31173	19657	63
10	20482	13539	66
11	18933	13134	69
12	12887	9331	72
13	11647	8578	73
14	8317	6612	79
15	7874	6358	80

54			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	204266	43294	21
2	109773	8035	7
3	43298	8779	20
4	19181	6840	35
5	10577	4767	45
6	5146	2869	55
7	4317	2567	59
8	2222	1474	66
9	2097	1413	67
10	1172	914	77
11	1134	857	75
12	691	558	80
13	645	539	83
14	468	397	84
15	403	356	88

55			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	1030649	185183	17
2	542867	25610	4
3	219890	37086	16
4	102926	29315	28
5	56552	22594	39
6	26862	13749	51
7	21281	11428	53
8	11825	7137	60
9	9222	5932	64
10	5818	4009	68
11	4903	3463	70
12	3540	2663	75
13	2999	2303	76
14	2200	1835	83
15	2058	1690	82

57			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	2172445	359711	16
2	1186409	38504	3
3	430258	67858	15
4	199816	55754	27
5	118324	44302	37
6	57715	28650	49
7	44379	23435	52
8	25286	14951	59
9	19441	12431	63
10	12655	8696	68
11	11371	7891	69
12	7665	5590	72
13	6853	5147	75
14	5174	4081	78
15	4592	3684	80

58			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	2037510	370375	18
2	1014896	33454	3
3	418103	64046	15
4	193310	53894	27
5	124960	43044	34
6	65958	29478	44
7	51397	24795	48
8	30437	16672	54
9	24115	14324	59
10	16033	9954	62
11	13730	9176	66
12	9237	6623	71
13	8050	5937	73
14	6333	4780	75
15	5587	4419	79

60			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	1851446	395303	21
2	786087	27052	3
3	401098	54548	13
4	197384	53646	27
5	137536	47537	34
6	67504	32914	48
7	56675	28791	50
8	33828	19793	58
9	29008	17623	60
10	18872	12398	65
11	16915	11361	67
12	11835	8401	70
13	10548	7605	72
14	7761	5879	75
15	7454	5774	77

62			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	185193	43859	23
2	75994	5621	7
3	39894	6677	16
4	20456	5690	27
5	14032	4756	33
6	7514	3247	43
7	5863	2772	47
8	3745	1966	52
9	2993	1666	55
10	2145	1267	59
11	1790	1134	63
12	1166	788	67
13	996	705	70
14	776	568	73
15	699	547	78

65			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	296985	69848	23
2	129185	9170	7
3	64642	11395	17
4	29292	9196	31
5	21498	7649	35
6	11066	5161	46
7	9752	4547	46
8	4844	2889	59
9	4452	2595	58
10	2694	1803	66
11	2437	1615	66
12	1751	1183	67
13	1705	1188	69
14	1142	818	71
15	1067	807	75

68			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	313325	65383	20
2	153134	10450	6
3	68068	11500	16
4	28763	9084	31
5	20235	7360	36
6	9416	4603	48
7	8471	4097	48
8	4390	2513	57
9	3850	2323	60
10	2443	1585	64
11	2225	1495	67
12	1435	1034	72
13	1331	967	72
14	972	732	75
15	949	744	78

70			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	196714	39747	20
2	102560	7088	6
3	41767	7738	18
4	16231	5290	32
5	11623	3865	33
6	5798	2646	45
7	4224	2206	52
8	2362	1459	61
9	1866	1190	63
10	1290	818	63
11	1033	716	69
12	676	510	75
13	759	487	64
14	492	356	72
15	516	388	75

74			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	93233	18617	19
2	44038	2793	6
3	20256	3226	15
4	8986	2387	26
5	6401	1871	29
6	2838	1257	44
7	2445	1026	41
8	1138	666	58
9	1309	686	52
10	643	438	68
11	609	396	65
12	463	326	70
13	376	278	73
14	297	217	73
15	243	193	79

76			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	133080	31649	23
2	60530	4375	7
3	26130	4904	18
4	12711	3917	30
5	8950	3174	35
6	4655	2145	46
7	3981	1888	47
8	2361	1313	55
9	1869	1117	59
10	1400	828	59
11	1281	754	58
12	949	597	62
13	983	536	54
14	703	426	60
15	671	463	69

78			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	36885	7929	21
2	16723	1456	8
3	6487	1227	18
4	3878	924	23
5	2344	760	32
6	1439	580	40
7	1412	509	36
8	649	286	44
9	541	249	46
10	366	180	49
11	272	160	58
12	304	116	38
13	283	102	36
14	221	87	39
15	196	121	61

80			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	14462	3881	26
2	6207	773	12
3	3161	591	18
4	1476	450	30
5	885	371	41
6	539	243	45
7	492	202	41
8	243	132	54
9	226	119	52
10	138	80	57
11	133	84	63
12	97	70	72
13	77	55	71
14	53	41	77
15	60	51	85

81			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	1324939	261669	19
2	645267	26159	4
3	271697	42515	15
4	127325	36653	28
5	83392	29547	35
6	41380	19844	47
7	34405	16886	49
8	19373	11293	58
9	16314	9727	59
10	10465	6763	64
11	9634	6058	62
12	6415	4574	71
13	5479	4133	75
14	4154	3262	78
15	4163	3151	75

82			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	654358	147450	22
2	280792	14765	5
3	139709	21527	15
4	69953	20145	28
5	48205	17197	35
6	23665	11334	47
7	20361	10157	49
8	11333	6594	58
9	10552	6137	58
10	6641	4310	64
11	5795	3866	66
12	4291	2914	67
13	3634	2637	72
14	2594	2020	77
15	2553	1957	76

83			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	91597	22632	24
2	46780	4699	10
3	19571	4442	22
4	8700	3240	37
5	4821	2140	44
6	2569	1329	51
7	2092	1126	53
8	1141	754	66
9	915	625	68
10	625	423	67
11	531	360	67
12	349	256	73
13	304	247	81
14	211	186	88
15	190	160	84

85			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	14340	3119	21
2	7844	716	9
3	2585	531	20
4	1324	356	26
5	563	244	43
6	362	182	50
7	413	165	39
8	311	152	48
9	144	90	62
10	84	56	66
11	92	60	65
12	53	40	75
13	61	50	81
14	30	25	83
15	30	26	86

86			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	27273	7618	27
2	12269	1377	11
3	5597	1283	22
4	2833	942	33
5	1879	806	42
6	966	497	51
7	780	434	55
8	480	307	63
9	376	266	70
10	235	169	71
11	182	134	73
12	135	99	73
13	154	107	69
14	89	67	75
15	145	97	66

90			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	92692	23401	25
2	45193	4489	9
3	19166	3994	20
4	8948	3073	34
5	5837	2302	39
6	2718	1417	52
7	2365	1352	57
8	1269	871	68
9	1222	826	67
10	773	569	73
11	676	477	70
12	478	375	78
13	429	368	85
14	298	258	86
15	327	275	84

91			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	50991	14363	28
2	21682	2408	11
3	10805	2208	20
4	5882	1831	31
5	3165	1311	41
6	1799	890	49
7	1353	819	60
8	956	585	61
9	782	498	63
10	502	354	70
11	555	385	69
12	353	247	69
13	315	252	80
14	222	187	84
15	248	207	83

92			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	48891	13028	26
2	19702	2181	11
3	11112	2028	18
4	5585	1690	30
5	3774	1446	38
6	1843	888	48
7	1420	704	49
8	907	505	55
9	707	463	65
10	449	308	68
11	437	282	64
12	326	230	70
13	284	211	74
14	197	154	78
15	191	146	76

93			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	160332	36494	22
2	77585	5891	7
3	32764	6194	18
4	14983	4688	31
5	10427	3625	34
6	4804	2333	48
7	3819	1990	52
8	2261	1327	58
9	2027	1217	60
10	1202	819	68
11	1186	780	65
12	846	615	72
13	815	569	69
14	653	463	70
15	552	421	76

94			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	190850	47707	24
2	93298	7647	8
3	37580	7952	21
4	18072	6404	35
5	12738	5315	41
6	5865	3288	56
7	5382	2980	55
8	3057	2034	66
9	2517	1668	66
10	1601	1139	71
11	1541	1152	74
12	996	772	77
13	865	700	80
14	674	577	85
15	681	565	82

97			
Sz	**# of subexpr**	**# of dist.**	**% of dist.**
all	6478	2235	34
2	3115	545	17
3	1196	436	36
4	624	276	44
5	388	183	47
6	196	110	56
7	267	135	50
8	75	55	73
9	76	64	84
10	36	31	86
11	86	60	69
12	35	23	65
13	33	27	81
14	21	14	66
15	45	36	80

Appendix F

Common Expressions in Classifications

Note:
The following tables list the popular expressions with their frequency in each Mathematical Subject Classification (MSC2000). Each table contains expressions of a certain size. Please see section 5.3.3 for our definition of expression size.

00 (General)

00 (Sz: 2)	
#	Expr
154	$2m$
99	$2n$
79	P_0
77	Z_n
74	$2k$
73	(x,y)
63	L^2
57	$\sqrt{3}$
53	dx
52	st
50	$\check{e}$
48	m^2
46	de
45	P_i
44	x^2

00 (Sz: 3)	
#	Expr
136	$m+2$
62	$n+2$
57	$k+1$
53	$n-1$
35	$i+1$
33	$i=1$
32	$\frac{1}{2}$
30	$k=1$
29	m_{st}
29	$j=1$
24	J^{2k}
22	$n-1$
21	$\frac{1}{n}$
21	$i-1$
20	reg

00 (Sz: 4)	
#	Expr
136	$(m+2)^2$
53	$(n+2)^2$
29	$k \in Z_n$
27	(de,e,n)
24	$2k-1$
22	$2m-1$
19	P_{i+1}
18	$l \in Z_n$
18	V^{reg}
18	$_{k \in Z_n}$
17	$2n-1$
14	$\min -total$
14	$x+dx$
13	$s \in Z_n$
13	$\lim_{n \to \infty}$

00 (Sz: 5)	
#	Expr
24	j^{2k-1}
19	$\sum_{j=1}^{n}$
12	j^{2n-1}
11	$s,t \in S$
11	$\left[B^N O R^N\right]$
11	j^{2m-1}
10	$\sum_{i=1}^{n}$
9	$h_{q,s}^{\alpha}$
9	$k=n-1$
8	$\sum_{i=1}^{n}$
8	$\frac{(n+1)}{2}$
8	$a_{i_1 j}^{0}$
7	R^{N-2m}
7	$\frac{\pi}{I-n}$

00 (Sz: 6)	
#	Expr
24	$N-2m+1$
17	$(n+2)^2+1$
14	$N-2m+2$
10	$\bar{Q}_E^{*n}$
9	$(RB)^{2m-2}$
9	$(RB)^{2m-1}$
8	$\lvert P_i P_{i+1} \rvert$
6	$[P_i P_{i+1}]$
5	$f_{P,Q,a}$
5	$_{(m=n=p)}$

00 (Sz: 7)	
#	Expr
15	B^{N-2m+1}
9	R^{N-2m+1}
9	R^{N-2m+2}
9	$\prod_{k=n-1}^{1}$
6	$j=1, j\neq l$
6	$\prod_{k=1}^{n-1}$
6	$\sum_{l=1}^{k+1}$
5	$\sum_{k=1}^{n-1}$
5	B^{N-2m+2}
4	$(\varphi(i),\varphi(j))$

00 (Sz: 8)	
#	Expr
6	$(m_{st})_{s,t\in S}$
4	$\{P_0, P_1, \ldots P_n\}$
3	$\left(4+3\sqrt{3}+\pi\right)^2$
3	$\frac{\left(2-\sqrt{3}\right)L^2}{8}$
3	$\frac{(n+2)^2+1}{2}$
3	$1-\frac{2d}{\mu_d^2}$
3	$(P_0P_i.P_0R)$
2	$\frac{(n-5)(n+5)}{2}$
2	$\left(\bar{Q}_E\right)^{2n+2L}$
2	$\left\|P_iP_{i+1}\right\|_d^2$

00 (Sz: 9)	
#	Expr
3	$\left[RO(BR)^{2n-1}B\right]$
2	$j=1, j\neq l, b$
2	$\{R\|P_0Q\|P_0R\}$
2	$y(x_2)-y(x_1)$
2	$\bigcup_{i=1}^{\frac{m-8}{4}}$
2	$\frac{n^2+2n-9}{2}$
2	$\frac{\pi}{2}-\frac{\pi}{I-n}$
2	$\rightarrow \check{e}_0=\check{e}\,.$
2	$\left(t^2-R^2\right)^2-t^2$
2	$\sum_{(x,y)\in\{c_1,\cdots,c_n\}}$

00 (Sz: 10)	
#	Expr
3	$y(x+dx)-y(x)$
2	$\left\|\bar{Q}_E^{*n}\bar{Q}_E^n\right\|$
2	$e^{\left(t^2-R^2\right)^2-t^2}$
2	$\left(\bar{Q}_E^{*n}\bar{Q}_E^n\right)$
2	$(1+e^{u\pm5}+e^{2u})$
2	$\left(c_{\tau(n-1)},c_{\tau(n)}\right)$
1	$\left(Z_1^{testing},Z_2^{testing},\ldots,Z_D^{testing}\right)$
1	$\frac{-\left(n^2+2n-9\right)}{2}$
1	$\left(1-\frac{2d}{\mu_d^2}\right)^{-1}$
1	$\{\dim V(w\phi,\zeta)\|w\in W\}$

00 (Sz: 11to15)	
#	Expr
7	$(P_{i-1}P_i.P_iP_{i+1})$
5	$\left[B^{N-2m}O(RB)^{2m}R^{N-2m}\right]$
5	$\prod_{j=1,j\neq l}^{k+1}$
4	$\left[8\left(3+2\sqrt{3}\right)A-L^2\sqrt{3}\right]$
3	$\left(\sum_{i=1}^n U_i(\alpha-\alpha_i)\right)$
3	$\left(P_{i-1}P_i.P_iP_{i+1}\right)_d$
2	$\prod_{i=1,i\neq l}^{k+1}$
2	$\prod_{j=1,j\neq l,b}^{k+1}$
2	$\sum_{l=1,l\neq b}^{k+1}$
2	$3\pi\sqrt{3}+4\pi+48\sqrt{3}$

00 (Sz: 16to20)	
#	Expr
2	$\cos\left(2t^3{-}tp^2\right)+2t\ sin(2t^3-tp^2)$
2	$\{nu+b_n,(n{-}1)u+b_{n-1},\cdots,b_0\}$
2	$\frac{y(x+dx)-y(x)}{(x+dx)-x}$
2	$\left\{\left(c_{\tau(1)},c_{\tau(2)}\right),\cdots,\left(c_{\tau(n-1)},c_{\tau(n)}\right)\right\}$
2	$\left\{\left(b_{\sigma(1)},v\right),\left(b_{\sigma(2)},b_{\sigma(3)}\right),\cdots,\left(b_{\sigma(n)},w\right)\right\}$
1	$c\left(\overset{=0}{x^2{+}2cxdx{+}dx^2}\right)-cx^2$
1	$2x^2+2y^2-2L(x+y)+2xy+L^2$
1	$\left(\delta_{i,k\dot{-}i}+(\alpha{-}1)\delta_{n-1,0}\right)$
1	$\left[B^{N-2m+1}RO(RB)^{2m-1}R^{N-2m}\right]$
1	$\frac{(d-1)^2-t^2}{d(d-1+t^2)}$

01 (History and biography)

01 (Sz: 2)	
#	Expr
281	x_{1}
264	-1
238	x_{0}
230	$x^{\star}$
188	$\dot{x}$
157	R^{n}
138	x_{2}
119	(x,y)
113	S^{1}
111	$2n$
99	dx
98	x^{2}
96	X_{*}
94	N^{n}
94	$\dot{y}$

01 (Sz: 3)	
#	Expr
105	$n-1$
90	$\frac{1}{2}$
77	$k+1$
75	λ, U
55	$j=1$
54	s,t
48	C_{c}^{m}
46	ran
46	x,z
45	n,k
43	$g \in G$
42	$i=1$
39	μ_{CZ}
34	reg
34	$2,2$

01 (Sz: 4)	
#	Expr
52	$\Psi_{\lambda,U}$
40	$G_{n,k}$
34	$1-x^{3}$
32	$1-x^{4}$
31	$1-x^{5}$
27	$\bigcap_{g\in G}$
25	$W^{2,2}$
24	$1-xx$
23	$b_{s,t}$
22	(x_{1},x_{2})
21	$1-x^{6}$
20	P^{n-1}
19	$1+t^{2}$
17	$-1/m$
16	$(1+\|x\|)^{d}$

01 (Sz: 5)	
#	Expr
23	$\sum_{m=1}^{\infty}$
14	$\prod_{j=1}^{n}$
13	$(x_{1},\cdots,x_{n})$
12	$\widetilde{\Psi}_{1,U}$
11	$\sum_{j=1}^{n}$
11	V_{reg}^{a}
10	$\sum_{i=1}^{m}$
9	$t+\tau,t$
9	$\sum_{i=1}^{n}$
9	$[\beta_{1},\ldots,\beta_{n}]$
8	q^{2x+1}
8	$\|V-V_{k}'\|$
8	$\frac{a_{0}}{2M}$
8	$\log w(t)$
7	$\sum_{k=0}^{\infty}$

01 (Sz: 6)	
#	Expr
18	$(S^{1}\times M,R)$
7	$(2\pi)^{-n/2}$
5	$\left\|\widetilde{v}_{j}^{m}\centerdot w\right\|$
5	(x_{1},x_{2},x_{3})
5	$1-tq^{2x}$
5	$1+\left\|x_{j}\right\|^{\alpha_{j}}$
5	$\Psi^{t+\tau,t}$
5	$\sum_{p+q=2}$
5	$q^{x(x-1)}$
5	$(a,b;q)_{z}$

01 (Sz: 7)	
#	Expr
12	$(S^{1},x^{*}TM)$
11	$(x^{\star}(y)+z,y)$
10	$(q(t),p(t))$
9	$(j=1,\ldots,n)$
8	$\bigcup_{T\in G}suppT$
7	$\frac{xds}{sdx}$
4	$x_{0}-x^{\star}(y_{0})$
4	$x_{1}^{2}+x_{2}^{2}$
4	$x^{-\frac{n_{i}}{m_{i}}}$
4	$\gamma_{x,U,\widetilde{\phi}}$

01 (Sz: 8)	
#	Expr
8	$\lambda\in[-T,T]$
3	$(\epsilon_{f}A_{b}(f(b))(a))$
3	$\log w(x+ty)$
3	$(\Omega(X,x)F)_{x,z}$
3	$\sum_{\nu=\nu_{0}+1}^{\infty}$
3	$\left\|(v_{j},x)^{m}\centerdot w(x)\right\|$
3	$\sum_{m=N_{r}}^{N_{r}'}$
3	$\partial_{n-1}^{\alpha_{n-1}}$
3	$\left\|(v_{j},x)^{i}\centerdot w(x)\right\|$
2	$\mu\in N^{n},\mu\neq 0$

01 (Sz: 9)	
#	Expr
4	$(T(N^{n}),T(W^{q}))$
4	$\{\,e_{i\lambda}\|\lambda\in E\,\}$
3	$ranD\bigcap ranL$
3	$1+\left\|V-V_{k}'\right\|_{C^{\nu}}$
3	$(a,b;q)_{z}\,t^{z}$
3	$(GraphU^{\sigma}\Psi U^{-\sigma},\Delta)$
2	$\bigcup_{n=1}^{\infty}\{\phi(x_{n})\}$
2	$(a_{j_{1}}(m),a_{j_{2}}(m))$
2	$[t_{0}-\delta,t_{0}+\delta]$
2	$y(x_{2})-y(x_{1})$

01 (Sz: 10)	
#	Expr
8	$\frac{\log w(t)}{1+t^{2}}$
7	$\{A_{\lambda}\}_{\lambda\in[-T,T]}$
4	$\phi_{\alpha_{1},\ldots,\alpha_{n-1}}$
3	$(c,d;q)_{x+z+1}$
3	$\frac{\log\widetilde{w}(t)}{1+t^{2}}$
3	$(a_{1},\cdots,a_{r};\,q)$
3	$y(x+dx)-y(x)$
2	$\{(\lambda+h)^{\nu}e_{ih}-\lambda^{\nu}\}$
2	$\left\|(1-\theta_{h})\partial^{\alpha}f\centerdot w\right\|_{\infty}$
2	$\frac{a^{\alpha+1}-1}{a-1}$

01 (Sz: 11to15)	
#	Expr
3	$\left\|\left\|(1+\|x\|)^{d}\partial_{x}^{\nu}V_{h}\centerdot w\right\|\right\|_{\infty}$
3	$\left\|(1+\|x\|)^{d}\partial_{x}^{\nu}V_{h}\centerdot w\right\|$
3	$(\Lambda(t_i),\partial_t\Lambda(t_i))$
3	$\frac{ranL}{ranD\bigcap ranL}$
3	$(a_1,\cdots,a_r;\,q)_n$
3	$\frac{\log w(x+ty)}{1+t^2}$
3	$\left(\{A_\lambda\}_{\lambda\in[-T,T]},\lambda\right)$
2	$\frac{\delta_\beta}{n!}\,\alpha_{\beta_1}\centerdot\ldots\centerdot\alpha_{\beta_n}$
2	$\{b_{s,t}\|1\leq s,t\leq n\}$
2	$\left\|(1+\|x\|)^{d}V_{h}(x)\centerdot w(x)\right\|$

01 (Sz: 16to20)	
#	Expr
3	$1-tq^{2x}(a+b+q)+tq^{3x}(c+d)$
2	$\left[\frac{i}{8\zeta}\sin u-\frac{1}{4}(u_x+u_t)\right]$
2	$\frac{\delta_\beta}{n!}\,\alpha_{\beta_1}\centerdot\ldots\centerdot\alpha_{\beta_n}$
2	$\overset{=\alpha_\beta}{\left(\frac{c}{a},\frac{c}{b},\frac{d}{a},\frac{d}{b};\,q\right)}$
2	$grad_{x_0+tu}f_a-grad_{x_0}f_a$
2	$\frac{\delta_\beta}{n!}\,\alpha_{\beta_1}\centerdot\ldots\centerdot\alpha_{\beta_n}$
2	$\frac{y(x+dx)-y(x)}{(x+dx)-x}$
2	$\frac{(a,b;q)_z\,t^z}{(c,d;q)_{x+z}}$
2	$(x,f(x),\partial^\alpha f(x))_{1\leq\|\alpha\|\leq r}$
2	$\left(\frac{c}{a},\frac{c}{b},\frac{d}{a},\frac{d}{b};\,q\right)_x$

03 (Mathematical logic and foundations)

03 (Sz: 2)	
#	Expr
4337	-1
1525	x_1
1496	ω_1
1462	$\bar{\nu}$
1309	$\bar{E}$
1035	a_i
900	$4i$
826	x_i
805	$;_\gamma$
740	a_1
699	X_i
683	x_n
678	tp
676	y_1
635	ϕ_K

03 (Sz: 3)	
#	Expr
1401	$i+1$
956	$n+1$
773	$n-1$
772	$i-1$
668	$m-1$
623	fin
593	$i=1$
431	$k+1$
409	$i \in I$
331	$k-1$
329	$m+1$
293	$R(S)$
237	$j+1$
214	f^{-1}
179	$m+2$

03 (Sz: 4)	
#	Expr
221	S_{fin}
210	x_1^{-1}
200	U_{fin}
193	$2j+1$
175	(G, G')
138	x_i^{-1}
130	$G_{R(S)}$
129	x_{i+1}
102	$m+4i$
89	y_{i-1}
88	z_m^{-1}
88	p_{m+1}
84	x_2^{-1}
82	y_1^{-1}
82	$2n+1$

03 (Sz: 5)	
#	Expr
122	n_{2j+1}
81	$\sum_{i=1}^{n}$
79	$2j_0+1$
70	$M^*_{\bar{E}\setminus/}$
67	$(S[0,0,r])$
54	$\{a_i \mapsto f_i\}$
51	$\kappa, j(\kappa)$
51	$\prod_{i=1}^{n}$
48	$(a_i \mapsto f_i)$
45	$\pi_{\beta^\tau,\alpha}$
44	$\sum_{j=1}^{n}$
42	ξ_0, ρ_0
41	$\prod_{i=1}^{m}$
39	(Sch/S)
38	$(x_1,\ldots,x_m)$

03 (Sz: 6)	
#	Expr
186	$m+4i-4$
116	$m+4i-2$
103	x_{i+1}^{-1}
74	y_{i-1}^{-1}
54	$x_1^{p_{m+1}}$
52	m_{2j_0+1}
52	y_{i-2}^{-1}
48	$m+4n-4$
46	$m+4i-3$
46	$m+4i-1$

03 (Sz: 7)	
#	Expr
86	ϕ_{m+4i-4}
69	$\nu_0, \ldots, \nu_k$
62	ϕ_{m+4i-2}
32	$\widetilde{y}_{i-1}^{-1}$
29	$(r_\nu \colon \nu \in pos(t))$
28	ϕ_{m+4i-1}
28	$(17\,Gen\,r)$
24	$(b_j \mapsto f_{ij})_j$
24	ϕ_{m+4i-3}
23	$h+d_1+d_2$

03 (Sz: 8)	
#	Expr
54	$\left(y_i x_{i+1}^{-1}\right)$
52	$y_{i-1}x_i^{-1}$
42	$c_{i+1}^{z_{i+1}}$
30	$A_{m-1}^{p_{m-1}}$
30	$L+m+4i-1$
27	$[\gamma(i_0-1)+1]$
26	$(c_1^{z_1}c_2^{z_2})$
22	$x_i y_{i-1}^{-1}$
20	$c_{i+1}^{e_{i+1}}$
20	$A_{m+2}^{p_{m+2}}$

03 (Sz: 9)	
#	Expr
36	$\nu_0, \ldots, \nu_{n-1}$
32	$A_{m+4i-4}^{q_0}$
30	$\phi_{L+m+4i-1}$
18	$c_{m-1}^{-z_{m-1}}$
18	$x_i^{\phi_{m+4i-2}}$
16	$\phi_{L+m+4i-2}$
15	$d_0, d', 1, 1$
14	$[a_i, b_i]^{m_i}$
14	$A_{m+4}^{-p_{m+4}}$
13	$Q_4^{mt}(K^*,\Sigma^*,F^*)$

03 (Sz: 10)	
#	Expr
38	$x_{i-1}y_{i-2}^{-1}$
38	$\left(\phi_{m+4i-4}\right)^{-q_0}$
20	$A_{m+4i}^{-q_4+1}$
20	$A_{m+4i-4}^{-q_0}$
20	$A_{m+2}^{p_{m+2}-1}$
16	$A_{m+4n-4}^{-q_0}$
16	$\left(y_i x_{i+1}^{-1}\right)^{-q}$
14	$\left(c_2^{-z_2}c_1^{-z_1}\right)$
14	$\left(\bar{x}_i\widetilde{y}_{i-1}^{-1}\right)$
12	$\left(y_i x_{i+1}^{-1}\right)^{-1}$

03 (Sz: 11to15)	
#	Expr
22	$\left(c_i^{z_i} c_{i+1}^{z_{i+1}}\right)$
14	$\left(\bar{x}_i \widetilde{y}_{i-1}^{-1}\right)^{q_0}$
13	$[Fg\{\, x\,\} \prec Fg\{\, y\,\}]$
12	$A_{m+4i-2}^{q_2-1}$
12	$A_{m+4i-2}^{-q_2+1}$
12	$((\alpha, i), (\beta, j))$
12	$A_{m+4}^{-p_{m+4}+1}$
10	$\frac{x^2+t^2+t}{x^2+t}$
10	$(b_i^{n_i} a_i)^{[a_i, b_i]^{m_i}}$
10	$(\phi_{m+4i-2})^{q_2-1}$

03 (Sz: 16to20)	
#	Expr
7	$(p^*)_{\langle mc(p^*), \ldots, j_n(p^*)\rangle}$
6	$\left[(Ns+n)^{-1}\right]_{(N,n)\in\mathbb{N}^2\setminus(0,0)}$
6	$\left(\left(\bar{x}_i \widetilde{y}_{i-1}^{-1}\right)^{q_0} \bar{x}_i^{q_1} \bar{y}_i\right)$
6	$\left(A_{m+4}^{-p_{m+4}} x_2^{p_{m+5}} y_2\right)$
5	$\left(\theta, I_0 + \frac{9}{10}\alpha_1^{-1} I_0^{2/3} J, \xi\right)$
5	$\left(I_0 + \frac{9}{10}\alpha_1^{-1} I_0^{2/3} J, \xi\right)$
5	$(z_1, \boxminus(z_2, \boxminus(\cdots \boxminus (z_D, z_{D+1}) \cdots)))$
4	$mc(p), \ldots, j_{n-1}(mc(p))$
4	$\left(y_{i+1}^{\alpha_{4i+3}} x_{i+2}^{-\alpha_{4i+3}}\right)$
4	$Sb_{p(z_1)\cdots p(z_{D+1})}^{z_1 \cdots z_{D+1}}$

05 (Combinatorics)

05 (Sz: 2)	
#	Expr
15383	-1
8429	$2n$
8023	x_1
5745	a_1
5294	i_1
5077	ij
4990	x_i
4200	$2k$
3650	x_2
3393	S_n
3346	b_1
3207	a_i
3141	v_1
2833	λ_1

05 (Sz: 3)	
#	Expr
9369	$n-1$
5225	$i=1$
4969	$n+1$
4659	$k-1$
4287	$i-1$
4235	$i+1$
3670	$\frac{1}{2}$
2883	$j=1$
2518	$k+1$
2272	i,j
2178	$j-1$
1841	$r-1$
1793	$m-1$
1776	$i=0$

05 (Sz: 4)	
#	Expr
693	p,p'
636	$\sum_{n\geq 0}$
594	$2n-1$
514	$-1/2$
507	$2n+1$
440	$2r+1$
413	$\lim_{n\to\infty}$
365	$2k-1$
355	2^{n-1}
355	$2k+1$
271	$2i-1$
265	$\sum_{k\geq 0}$
253	x_{i+1}
242	q^{1-n}

05 (Sz: 5)	
#	Expr
752	$\sum_{n=0}^{\infty}$
548	$\sum_{i=1}^{n}$
538	$\prod_{i=1}^{n}$
522	$\sum_{k=0}^{n}$
442	r_1, r_2
360	$\sum_{j=1}^{n}$
343	$\sum_{k=1}^{n}$
333	$\sum_{i=1}^{k}$
324	$\sum_{n=1}^{\infty}$
277	$i,j=1$
277	C_{2r+1}
270	$(1+o(1))$
255	a,b,c
251	$(x_1,\cdots,x_n)$
239	$\sum_{k=0}^{\infty}$

05 (Sz: 6)	
#	Expr
176	$(d+1)(q-1)$
156	$N_{Aut(F_n)}$
155	$\sum_{j=-\infty}^{\infty}$
66	$\frac{1-x}{2x}$
66	$p,p'+p$
65	S_{n+q-1}
57	$'_{k,p-1}$
55	$\widetilde{H}_{\nu_{m,n}}$
54	$t_{j,k+1}$
53	$s_{\lambda/d/\mu}$

05 (Sz: 7)	
#	Expr
172	$1\leq i,j\leq n$
164	a,b,e,f
141	$\prod_{i,j=1}^{n}$
122	(C_{2r+1},K_n)
119	$\sum_{k=1}^{n-1}$
119	$(X_1,X_2,\cdots,X_n)$
113	$1\leq h,t\leq n$
109	β_{ij}^{ik}
108	$\sum_{k=0}^{n-1}$
77	α_{ij}^{ik}

05 (Sz: 8)	
#	Expr
96	$\det_{1\leq h,t\leq n}$
72	$1\leq i,j\leq 2n$
62	$\left(k;A,B,a\right)$
61	i_0,i_1,i_2
48	(m',r',k')
45	$\det_{1\leq i,j\leq n}$
41	$n(n-1)/2$
35	$\det_{1\leq i,j\leq r}$
34	$\alpha_{a,b}^{p,p'}$
33	$T_i+T_j+T_k$

05 (Sz: 9)	
#	Expr
39	$g;k_1,\cdots,k_n$
37	$\{p+1,\ldots,p+q\}$
35	$s_{a+i-j}^{(n-j)}$
33	$q^{T_i+T_j+T_k}$
29	$k_1,\cdots,k_r=0$
29	$\ell_{b+i-1}^{(n-1)}$
29	a',b',e,f
28	$c-a\left(a+bq^k\right)$
25	$a_{i-1,j-1}^{(e)}$
25	$(q,a,q/a;q)$

05 (Sz: 10)	
#	Expr
70	$\chi_{a,b,c}^{p,p'}$
49	$p^{(i-1)}, p^{(i-1)\prime}$
41	$(132, kk-1\ldots 4213, 2341)$
39	$(-1)^{n(n-1)/2}$
39	$\P_{a,b,c}^{p,p'}$
36	$\int_{-\sqrt{2}/2}^{\sqrt{2}/2}$
34	$\binom{n}{i_0,i_1,i_2}$
28	$k_1, \cdots, k_n = -\infty$
27	$\Delta_{d-1}^{(d+1)(q-1)}$
25	$(q, a, q/a; q)_\infty$

05 (Sz: 11to15)	
#	Expr
72	$\P_{a,b,e,f}^{p,p'}$
37	$\beta_{a,b,e,f}^{p,p'}$
29	$n_1, \cdots, n_{k-1} \geq 0$
28	$\sum_{k_1,\cdots,k_n=-\infty}^{\infty}$
28	$\sum_{n_1,\cdots,n_{k-1}\geq 0}$
27	$n_1, \cdots, n_{k-1} = 0$
27	$\sum_{n_1,\cdots,n_{k-1}=0}^{\infty}$
27	$x_i q^{k_i} - x_j q^{k_j}$
27	$(x; q, p, t, a, b)$
26	$\ell_{b+i-1}^{(n+j-1)}$
523	$A_1, \cdots, \widehat{A_j}, \cdots, A_p$

05 (Sz: 16to20)	
#	Expr
37	$\pi(\beta_2), \pi(\beta_1), w_3, \ldots, w_{2\ell}$
37	$\chi_{\pi(\beta_2),\pi(\beta_1),w_3,\ldots,w_{2\ell}}$
27	$\frac{x_i q^{k_i} - x_j q^{k_j}}{x_i - x_j}$
25	$(\pi(\beta_2), \pi(\beta_1), w_3, \ldots, w_{2\ell})$
20	$\chi_{(\pi(\beta_2),\pi(\beta_1),w_3,\ldots,w_{2\ell})}$
19	$\P_{a',b',e,f}^{p,p'+p}$
18	$(h_0, h_1, h_2; q_0, q_1, q_2)$
15	$\left(X_1^{(h(1))} X_2^{(h(2))} \cdots X_n^{(h(n))}\right)$
15	$i_j - i_{j-1} + i_{j-2} - i_{j-3} - 1$
15	$\left(b; j_1', j_2', \ldots, j_{d^R-1}'\right)$

06 (Order, lattices, ordered algebraic structures)

06 (Sz: 2)	
#	Expr
2294	-1
1176	a_1
1143	x_1
819	ij
784	$\vec{v}$
719	$\widehat{0}$
660	x_i
658	y_1
601	(-1)
586	p_i
562	a_i
561	a_2
504	i_1
503	(x,y)
468	$\widehat{1}$

06 (Sz: 3)	
#	Expr
805	$n-1$
706	$n+1$
536	$i+1$
527	h^{-1}
505	$k-1$
485	$i-1$
481	$k+1$
473	$i \in I$
327	i,j
309	ij
308	$i=1$
304	ik
191	u^{-1}
179	$q+1$
178	$j+1$

06 (Sz: 4)	
#	Expr
154	$2k+1$
110	(a_1,a_2)
101	$\geq \{0\}$
73	$\bigoplus_{i\in I}$
72	$(\Delta, \partial\Delta)$
61	2^{n-1}
59	$\bigvee_{i\in I}$
55	$(\sigma, \partial\sigma)$
49	x_{n-1}
48	$\vec{c}, L$
47	a_{i+1}
45	(p_i,p_j)
45	k_{j+1}
44	x_{i+1}

06 (Sz: 5)	
#	Expr
117	$(21)^{2k+1}$
66	$(\partial^\circ g)^{-1}$
54	A^{12}_{q+1}
51	$\sum_{i=1}^{n}$
47	$n-k-1$
39	a^{12}_{k+1}
39	$\lambda/d/\mu$
38	$[0,n+1]$
36	A^{32}_{k-1}
34	$i_1 i_2$
31	A^{13}_{k-1}
29	A^{23}_{q+1}
28	a^{13}_{k+1}
27	$A^{3\mathrm{l}}_{q+2}$
27	(x_1+y_3)

06 (Sz: 6)	
#	Expr
62	$1(21)^{2k+1}$
47	$(R^n)_{\geq\{0\}}$
32	$s_{\lambda/d/\mu}$
24	$\left\{(\partial^\circ g)^{-1}(y)\right\}$
20	$(a_1,\cdots,a_{d'})$
20	(η_1,η_2,η_3)
18	$(-1)^{v(\lambda)}$
16	α^{1t}_{12}
16	${v_i}' \bigoplus x'$
14	A^{ki}_{n-1}

06 (Sz: 7)	
#	Expr
109	β^{ik}_{ij}
77	α^{ik}_{ij}
69	$(M; P, I, J)$
36	$p=1,2,3$
29	$i=1,2,3$
28	$(-1)^{n-k-1}$
23	$(B(n), m; \rho)$
22	$(x, y, f(y))$
20	$\sum_{k=0}^{n-1}{}_{j=i}$
19	$\sum_{j=1}$

06 (Sz: 8)	
#	Expr
36	$\sum_{p=1,2,3}$
17	$\sum_{\emptyset\neq S\in I_\omega(P)}$
16	$\sum_{i=1,2,3}$
12	$\bigcap_{i=1,2,3}$
12	$(R^{n+1})_{\geq\{0\}}$
11	$\{\aleph_\xi \mid 0 \leq \xi \leq \gamma\}$
10	$\sum_{i=1}^{2^{n-1}}$
9	$\langle x_i, r_i \bullet y_i \rangle$
9	$\left(\vec{lim}_{i\in I}\, X_i\right)$
8	$1\,.\,1\,.\,.\,.\,.\,.\,1$

06 (Sz: 9)	
#	Expr
19	$(x, y, B^\circ g(y))$
13	$([0,n+1], d+1)$
10	$(R^n,\ o.bdd.)_{\geq\{0\}}$
10	$\frac{h_{j+1}}{k_{j+1}}$
9	$\langle x_i, r_i \bullet y_i \rangle_B$
8	$\frac{\lambda^2 q}{2} - \lambda^4 q$
8	$\prec P_0, \ldots, P_n \succ$
7	$\left(a_{\,\alpha} \wedge b_{\,\beta+1}\right)$
7	$k \in n+1 \setminus (a \bigcup b)$
7	$\frac{\deg(\lambda)-1}{d-1}$

06 (Sz: 10)	
#	Expr
18	$(M; P', I', J')$
14	$\left(M\,;P\,,I\,,J\right)$
11	$(E_{i,\star} \circ_\star E_{j,k})$
9	$u = (u_1,\ldots,u_p) \in AP(s)$
8	$e^{\frac{\lambda^2 q}{2} - \lambda^4 q}$
7	$(E_{j,\star} \circ_\star \Omega_{i,k})$
6	$\sigma(p \setminus q; p \setminus S)$
5	$(U_{i_1} U_{i_2} \cdots U_{i_k})$
5	$\sum_x f(x) f(x+a)$
5	$\left(n-k-1, 1^{k+1}\right)$

06 (Sz: 11to15)	
#	Expr
19	$\left(A; B_1, \cdots, B_{d(A)}\right)$
19	$\left(\beta_{ij}^{ik}, \alpha_{ij}^{ik}\right)$
13	$[Fg\{\,x\,\} \prec Fg\{\,y\,\}]$
12	$[x_1, \cdots, x_{lm}]^{S_l i S_m}$
12	$\{mreg - HMOD_A, mreg - Hilb_A\}$
11	$(F"_1, J"_1, F"_2, J"_2)$
10	$\alpha_{i_t i_1}^{i_t j_2}$
10	$\frac{F'_1 \leq F"_1}{F'_2 \leq F"_2}$
9	$\alpha_{i_1 i_2}^{i_1 j_2}$
9	$\alpha_{i_1 i_2}^{i_1 i_t}$

06 (Sz: 16to20)	
#	Expr
10	$\sum_{\frac{F'_1 \leq F"_1}{F'_2 \leq F"_2}}$
9	$(\Omega_{I,\gamma}; \Omega_{II,\gamma}; \Omega_{III}, 2_\gamma)$
6	$x^{1+crk\left(F'_1\right)+crk\left(F'_2\right)}$
5	$(\Omega_{I,\infty}; \Omega_{II,\infty}; \Omega_{III}, 2_\infty)$
5	$(\langle l_0 \rangle \bigcup \langle l_1 \rangle \bigcup \cdots \bigcup \langle l_r \rangle)$
4	$\left(-\beta_{ij}^{ik}\,, \alpha_{ij}^{ik} + \pi\right)$
4	$(((y \vee x) \wedge x) \vee (((z \wedge (x \vee x)) \vee (u \wedge x)) \wedge v))$
4	$\sigma(L, p) + \sigma(L \setminus \{p\}, q)$
4	$(-1)^{\sigma(L,p)+\sigma(L\setminus\{p\},q)}$
4	$(f(x_1) f(x_2) f(x_3) \cdots f(x_r))$

08 (General algebraic systems)

08 (Sz: 2)	
#	Expr
1101	-1
541	x_1
335	T_1
322	a_1
313	x_n
270	H_1
268	p^i
244	H_2
240	$O^{(1)}$
216	a_i
200	W_2
194	n_f
188	p^a
187	W_1
177	ij

08 (Sz: 3)	
#	Expr
355	Pol
228	$n+1$
201	$n-1$
154	$i-1$
129	$i=1$
128	$k+1$
118	f^{-1}
107	$a+b$
102	$\frac{n}{k}$
100	$i+1$
98	$j+1$
97	$k-1$
86	Clo
73	Var
69	$n-i$

08 (Sz: 4)	
#	Expr
95	p^{a+b}
69	(x_1,x_2)
46	p^{n-i}
45	C^{k+1}
41	Clo_n
38	x_{n-1}
38	p^{a-i}
37	a_{i+1}
32	a_{i-1}
29	a_{n-1}
27	$b_i^{q_i}$
26	p^{a+1}
24	Cl_{H_2}
24	s_A^{-1}
24	$f^{E,\sigma}$

08 (Sz: 5)	
#	Expr
50	$(x_1,\ldots,x_n)$
41	$(a_1,...,a_k)$
39	$\prod_{i=1}^{k}$
37	$\frac{n}{k-1}$
30	$(x_1,...,x_n)$
27	$(W(X),G)$
27	$a+b-i$
24	$\frac{k-1}{2}$
23	$\lim_{h\to-\infty}$
23	$(A_1,\cdots,A_m)$
22	W_1,W_2
21	$(W(X),H)$
21	$(x_1,\cdots,x_n)$
21	$\frac{n+1}{2}$
19	(m',n')

08 (Sz: 6)	
#	Expr
51	n,n',t
26	p^{a+b-i}
22	β_{W_1,W_2}
20	$(\beta_1,\ldots,\beta_{n_f})$
20	$(\beta_1,...,\beta_{n_f})$
19	$[a^q a',b]$
18	(p^{a+b},p^a)
17	$[a,b^q b']$
15	$(\alpha_1,\ldots,\alpha_{n_f})$
15	$(\alpha_1,...,\alpha_{n_f})$

08 (Sz: 7)	
#	Expr
22	$M_{n,n',t}$
13	$U_{n,n',t}$
10	$\lvert X \setminus f[X \setminus A]\rvert$
10	$\prod_{1\le i\le n_f}$
10	$(x\vee y=x\vee z)$
10	$(x\wedge y=x\wedge z)$
9	$\sum_{i=1}^{m} A_i$
8	$(\beta_{W_1,W_2}(T))$
8	$(f(x)=f(y))$
7	A,B,ϵ,μ

08 (Sz: 8)	
#	Expr
6	$(\Delta_{\alpha,U}\wedge\ker\pi)$
5	$[a^q r^n r',b]$
5	$y^{\eta p^{n-i-1}}$
5	$(x,\ldots,x,c_1,\ldots,c_m)$
5	$(\beta_{W_1,W_2}(T_1))$
5	$p(a)p(b)$
4	$\left(\frac{n_j-k_j}{2}\right)^2$
4	$[c_j,g_i]^{-\ell_{ij}}$
4	$[xh_1,yh_2]^q$
4	$nz^{n-1}e^{z^n}$
3	$g_j^{-q_i m_{ji}}$

08 (Sz: 9)	
#	Expr
10	$\left(A_1^{\bigotimes k}+A_2^{\bigotimes k}\right)$
9	$(Ug\{\,\alpha\,\},\ Ug\{\,\beta\,\})$
9	$X_{i-1}\bigcup Y_{i-1}$
9	$L_{f,n,n',t}$
9	$(t_{n-1}=s_{n-1})$
8	$\varphi(W_1),\varphi(W_2)$
6	$\lceil\frac{n}{k-1}\rceil-1$
6	$p+r,q+r,0$
5	$L_{f,n,n',t}$

08 (Sz: 10)	
#	Expr
8	$\beta_{\varphi(W_1),\varphi(W_2)}$
7	$[a_i^{q_i}a_i',b_i]$
5	$[a_i,b_i^{q_i}b_i']$
5	$[a_i,b_i^{q_i}b_i']$
5	$(-1)^{p(a)p(b)}$
4	$[g_i,c_i^{q_i}]^{\frac{m_i}{2}}$
4	$(p-1)^{1/(n+2)}$
4	$[c_j,g_i]^{-q_j m_{ij}}$
4	$M_{\lceil\frac{n}{k-1}\rceil-1}$
3	$\left(\sum_{i=1}^{m}\alpha_i A_i\right)^k$

08 (Sz: 11to15)	
#	Expr
14	$(a_1,\ldots,a_{i-1},x,a_{i+1},\ldots,a_n)$
8	$[X^{i-1}\times\{c\}\times X^{n-i}]$
7	$\left(A_1^{\bigotimes k}+\cdots+A_m^{\bigotimes k}\right)$
6	$[X^{i-1}\times\{c_i\}\times X^{n-i}]$
6	$\lvert X_i\setminus(X_{i-1}\bigcup Y_{i-1})\rvert$
5	$\langle b,\ldots,b,c_1,\ldots,c_m\rangle$
4	$[f(z\vee h)\vee(f(z)+i\pi)]$
4	$\left(k\lfloor\frac{n}{k}\rfloor+R\left(\frac{n}{k}\right)\right)$
4	$(x_1,\ldots,x_n;y_1,\ldots,y_m)$
4	$\left(A,f_0^A,f_1^A,\ldots,f_\gamma^A,\ldots\right)$

08 (Sz: 16to20)	
#	Expr
8	$\left(\omega^U(a_1,\ldots,a_{i-1},x,a_{i+1},\ldots,a_n)\right)$
6	$\left(\omega^U(a_1,\ldots,a_{i-1},x,a_{i+1},\ldots,a_n)\right)_{a_i}$
4	$t^{U_b}_{\langle b,\ldots,b,c_1,\ldots,c_m\rangle}$
4	$\langle b,\ldots,b,c_1,\ldots,c_m\rangle,i$
4	$\{x\in X\colon\exists y\neq x\,(f(x)=f(y))\}$
3	$(\langle a_1,m_1\rangle,\ldots,\langle a_n,m_n\rangle)$
2	$\left[x^{\zeta p^{n-i-1}}y^{\eta p^{n-i-1}},y\right]$
2	$\{x\in A\colon\exists y\in X\setminus A\,(f(x)=f(y))\}$
2	$\left(A_i,t_0^{A_i},t_1^{A_i},\ldots,t_\gamma^{A_i},\ldots\right)$
2	$\left\lVert A_n(z)^{-1}P_n\psi-A_n(w)^{-1}P_n\psi\right\rVert$

11 (Number theory)

11 (Sz: 2)	
#	Expr
24147	-1
6380	a_1
5558	$2n$
5303	x_1
4501	x^2
3938	$2k$
3584	H^1
3545	(x,y)
3234	a_2
2981	k_1
2942	a_n
2841	y^2
2823	a_i
2720	n_1
2684	q^2

11 (Sz: 3)	
#	Expr
9121	$\frac{1}{2}$
8296	$n-1$
5405	$n+1$
4408	$i=1$
3902	$k-1$
3117	$j=1$
2479	$1/2$
2401	$k=1$
2361	$p-1$
1997	$i+1$
1861	$k=0$
1850	$k+1$
1793	$n=1$
1739	i,j
1707	$m-1$

11 (Sz: 4)	
#	Expr
836	$-1/2$
583	$\int_{-\infty}^{\infty}$
560	$2n+1$
506	p^{n-1}
489	$\lim_{n\to\infty}$
365	$2n-1$
330	$2k+1$
320	$P^{(s+1)}$
319	a_{n-1}
315	$\frac{T}{2\pi}$
311	$\sum_{n\leq x}$
311	$2k-1$
287	p^{k-1}
266	2^{n-1}
262	x_{n-1}

11 (Sz: 5)	
#	Expr
1025	$\sum_{n=1}^{\infty}$
696	$\sum_{n=0}^{\infty}$
463	$\sum_{k=1}^{\infty}$
423	$\frac{1}{2\pi i}$
414	$\sum_{k=0}^{n}$
393	$\sum_{k=1}^{n}$
365	$\sum_{i=1}^{n}$
349	$\sum_{k=0}^{\infty}$
305	$\sum_{j=1}^{n}$
283	$\prod_{i=1}^{n}$
279	$n-s+1$
267	$\prod_{k=1}^{n}$
262	$\sum_{m=1}^{\infty}$
247	$\sum_{i=0}^{n}$

11 (Sz: 6)	
#	Expr
149	$m, W(k)$
125	Y_{n-s+1}
122	Z_{n-r+1}
92	$(T_\ell A, e_0)$
84	$[\zeta+\zeta^{-1}]^*$
63	$\{-1,0,1\}$
59	$\Omega_K^{d-1,\ ca}$
54	$G_{k,n,d}$
53	$\nu_{n-1/n}$
53	(qz_k/z_j)

11 (Sz: 7)	
#	Expr
107	$\sum_{k=1}^{n-1}$
97	$\sum_{k=0}^{n-1}$
76	$\sum_{i=0}^{n-1}$
71	$n+m-i-j$
69	$T', \lambda'_{T'}$
68	$\widetilde{G}_{k,n,d}$
66	$B^{\dagger,s}_{rig,K}$
64	$\sum_{j=0}^{n-1}$
61	$\prod_{j,k=1}^{n}$
59	$\left(\frac{n+m}{n}\right)^{-1}$

11 (Sz: 8)	
#	Expr
61	i_0, i_1, i_2
56	$\Phi_{T',\lambda'_{T'}}$
53	$\left(1^2,\cdots,(2n-1)^2\right)$
50	$D_{X/Y}^{-1/2}$
48	$(qz_k/z_j)_{y_k}$
45	$(4k+1)^{4m+2}$
44	$\left(P^{(s+1)},Y_{n-s}\right)$
40	$\int_{T/2}^{5T/2}$
36	$\xi_{\rho,s,m}$
34	$\left(2^2,\cdots,(2n-2)^2\right)$

11 (Sz: 9)	
#	Expr
69	$(u,v,w,z;g)$
50	$\frac{a\tau+b}{c\tau+d}$
50	$\frac{\Delta(zq^y)}{\Delta(z)}$
48	$\lambda(h), \lambda(g), v$
43	$\frac{az+b}{cz+d}$
37	$\frac{1-x_1}{1+x_1}$
37	$i^a_{k_1,\cdots,k_m}$
35	$1-\frac{1}{p(p-1)}$
25	$(F_1(x,y), F_2(x,y))$
25	$y_1,\cdots,y_n \geq 0$

11 (Sz: 10)	
#	Expr
50	$(m;\,\Delta;\,\beta;\,\alpha)$
45	$(4k+1)^{4m+2}-1$
34	$\binom{n}{i_0,i_1,i_2}$
30	$(A',q)_{m,W(k)}$
30	$[a_0;a_1,a_2,\cdots]$
25	$1\leq j\leq m,(j,p)=1$
25	$\prod_{p\nmid d_p\mid P_v(x,y)}$
25	$_{1\leq j\leq m,(j,p)=1}$
24	$-2\pi n/\sigma N\log N$
22	$(J',q)_{m,W(k)}$

11 (Sz: 11to15)	
#	Expr
51	$Dq_1q_2, Dq_1{}'q_2$
45	$\widetilde{J}^{Dq_1q_2,Dq_1q_2}$
34	$\rho_{S\bigcup S'}^{S'-new}$
32	$\frac{(4k+1)^{4m+2}-1}{4k}$
31	$\sum_{(x,y)\in S\bigcap[-N,N]^2\bigcap L}$
23	$(z_1+z_2+z_3+z_4)$
23	$\frac{n+m-i-j}{n-\alpha}$
22	$F_p^{alg}K/F_p^{alg}$
19	$U_{n-1,p^{n-1}+1}$

11 (Sz: 16to20)	
#	Expr
25	$(\pi(\beta_2),\pi(\beta_1),w_3,\ldots,w_{2\ell})$
24	$\sum_{(x,y)\in S\bigcap[-N,N]^2\bigcap L_{\gcd(x,y)=1}}$
20	$\chi_{(\pi(\beta_2),\pi(\beta_1),w_3,\ldots,w_{2\ell})}$
19	$\sum_{\substack{m_1,\cdots,m_n\\ y_1,\cdots,y_n=0}}$
16	$\frac{s_{n-h}\left(1^2,\cdots,(2n-1)^2\right)}{(2n)!}$
16	$\frac{s_{n-h}\left(2^2,\cdots,(2n-2)^2\right)}{(2n-1)!}$
12	$\frac{\max\left(\lvert f(X)\rvert_\nu,\lvert g(X)\rvert_\nu\right)}{\max\left(1,\lvert X\rvert_\nu\right)^4}$
12	S_0,S_i,U_i,Y_i,X_i,X_4
12	$\frac{\left(\frac{3}{2}-s\right)\left(\frac{1}{2}-s\right)}{s(s-1)(2-s)}$
11	$\frac{\theta\left(az_kq^{y_k+\lvert y\rvert}\right)}{\theta(az_k)}$

12 (Field theory and polynomials)

12 (Sz: 2)	
#	Expr
1729	-1
1094	x_1
762	ij
610	a_1
590	T_2
575	x_2
519	a_i
461	$\bigotimes_H$
448	x_i
447	x^2
429	x_3
423	F_p
410	T_3
371	d_1
369	y_1

12 (Sz: 3)	
#	Expr
1283	$n-1$
414	$i=1$
366	$\sigma-1$
355	T_2^2
325	x_1^2
311	L/K
291	Q/Z
269	$i-1$
257	E/F
255	$n+1$
249	T_1^3
248	T_1^2
247	Tor
247	rig,K
245	K/F

12 (Sz: 4)	
#	Expr
243	$N_{E/F}$
239	$N_{K/F}$
133	$N_{L/K}$
128	p^{n-1}
108	K_{n-1}
101	k_{n-1}
91	$(G,Q/Z)$
81	$\sum_{n\geq 0}$
78	n_{n-1}
78	$z,\widetilde{z}$
63	2^{n-2}
55	$\{a,-1\}$
54	$\dagger,r_n$
53	2^{n-1}
51	a_{n-1}

12 (Sz: 5)	
#	Expr
74	$\sum_{i=1}^{n}$
72	$[n]_q^!$
59	$B_{rig,K}^\dagger$
53	$\sum_{n=0}^{\infty}$
50	$\sum_{j=1}^{m}$
49	$2,n+1$
44	$K_{n-1}^\times$
43	$(f,g;A)$
40	$\sum_{k=0}^{\infty}$
38	$\sum_{j=1}^{n}$
35	$m,L/K$
31	$\widetilde{Y}_{n-1}$
30	$)_g^{\psi=1}$
29	$\left[N_{K/F}(\delta)\right]$
29	a,b,c

12 (Sz: 6)	
#	Expr
38	$\left(_{\bar{K}}/\bar{K}\right)$
29	$B_{\log,K}^\dagger$
28	$(\sigma-1)^{p-1}$
28	$(c_P+c_P^2)$
27	$\left[N_{K/F}(\delta)\right]_F$
25	$\widehat{F}_{u(i,j)}$
24	$l(\gamma)-1$
23	$(x-\xi)_{q,n}$
19	$\lvert(q-1)\xi\pi_q\rvert$
18	K_{n-1}/F
18	$\left[N_{K/F}(\gamma)\right]_F$
18	$\lvert 1-q^{\kappa_v}\rvert_v$
18	$-\frac{1}{p-1}$
17	$\left[N_{K/F}(K^\times)\right]$
17	$-b+o(1)$
17	$p^m,\Omega/K$
16	$((\sigma\bigotimes id)\bigotimes_H id)$
16	$\bigotimes_{B_{rig,K}^\dagger}$
16	$(c_{P^\sim}\circ c_P)$
15	$_{\bar{K},z_U}$

12 (Sz: 7)	
#	Expr
66	$B^{\dagger,s}_{rig,K}$
34	$\Big(C(W)^G, Q/Z\Big)$
25	$B^{\dagger,r}_{rig,K}$
24	$\lvert p\rvert_v^{1/(p-1)}$
23	$\Big(\vec{a},\vec{b};\lambda\Big)$
22	$\frac{x_j^{2k}}{k!}_1$
17	$p^{-\frac{1}{p-1}}$
16	$\Big(X_a, Z/2\Big)$
16	$\frac{\lambda-1}{q-1}$
15	$1/\kappa_v(p-1)$
15	$)^{l(\gamma)-1}$
15	$(f_X, f_Y; A)$
14	$\langle a_1, \cdots, a_r\rangle$
14	$N_{K_{n-1}/F}$
14	$\sum_{i=0}^{n-1}$
12	$\frac{n(n-1)}{2}$
12	$\big(N_{E/F}k_n E\big)$
11	$[f_1,f_2,\cdots,f_n]$
11	$N_{K/K_{n-1}}$
11	$(\alpha+\beta-\gamma+1)$

12 (Sz: 8)	
#	Expr
23	$\bigotimes_{B^{\dagger,s}_{rig,K}}$
18	$(wJ+xK+yL)$
12	$\Big\lvert\big[\kappa_v\big]_q\Big\rvert_v^{1/\kappa_v}$
11	$\lvert(\widetilde{q}-1)\xi\pi_{\widetilde{q}}\rvert$
11	$(\sigma-1)^{p^n-p^i}$
11	$i+2^{n-1}-1$
10	$\sum_{\alpha\in[0,1)}$
10	$\widetilde{B}^{\dagger,r}_{rig,K}$
10	$\Big(\vec{a},\vec{b};\lambda\Big)^t$
9	$(\phi(\nabla_1)\bigotimes id_2)$
9	$(C_k \centerdot Tor(\sigma))_{\widetilde{z}}$
9	$\big[N_{K_1/F}\big(K_1^\times\big)\big]$
9	$\Big(A, A^\omega, A^{\omega^2}\Big)$
9	$n(n-1)/2$
8	$\bigotimes_{B^{\dagger,r}_K}^{\iota_n}$
8	$\prod_{y_1\in B(\rho,1)}$
7	$O_{Tor(\Delta_k),z}$
7	$(1-z)^{\alpha+\beta-\gamma}$

12 (Sz: 9)	
#	Expr
18	$i, k_1, \ldots, k_i$
15	$\lvert p\rvert_v^{1/\kappa_v(p-1)}$
15	$\frac{d_q^n}{[n]_q^!}$
13	$i=0,\cdots,\mu-1$
11	$\big(\bar{K}_{,z_U}/\bar{K}\big)$
10	$(\partial g(z,\widetilde{z})/\partial z)$
9	$(\sigma-1)^{l(\gamma)-1}$
9	$n_1+\cdots+n_{k-1}$
8	$(S^2V^\vee\to\Lambda^4U^\vee)$
8	$\frac{d_q^k}{[k]_q^!}$
7	$\frac{G_n(\xi)}{[n]_q^!}$
7	$n_1+\cdots+n_k=l$
7	$(m_s,m_{s+1},\cdots,m_n)$
7	
7	$m/(m-g-1)$
7	(L_{i+1}/F_{i+1})
7	$(x_1,\ldots,x_{i-1},T_i)$
6	$P^{(k-1)}_{m,L/K}$
6	$(\sigma-1)^{l(w)-1}$
6	$n_1+\cdots+n_k=l$

12 (Sz: 10)	
#	Expr
13	$\sup_{i=0,\cdots,\mu-1}$
10	$b_{i,k_1,\ldots,k_i}$
9	$(-1)^{n(n-1)/2}$
9	$q^{n_1+\cdots+n_{k-1}}$
8	$-\frac{T}{2}\le t\le\frac{T}{2}$
7	$(P)^{m/(m-g-1)}$
6	$x_0, x_1, \ldots, x_k$
6	$(\vec{a},\vec{a}+\vec{u};\lambda)$
6	$\big[f(z)(\zeta-z)^{-2}\big]\widehat{\cdot}$
5	$(P)^{1/(m-g-1)}$
5	$\frac{\lVert A^n x\rVert}{\lvert(mn+k)!\rvert_p}$
5	$\frac{d_q^n f}{[n]_q^!}$
5	$\frac{d_q^n(f)}{[n]_q^!}$
5	$\big(\bigoplus_{i=1}^4 O_1(d_i)\big)$
5	$i=0,\cdots,n_0-1$
5	$(d_1+d_2+d_3-2)$
5	$\big(\bigoplus_{i=1}^3 O_1(d_i)\big)$
4	$\lvert a_i(x)\rvert_{v,\ Gauss}^{1/(\mu-i)}$
4	$(\sigma-1)^{p^n-p^{n-1}}$
4	$\Big(\frac{\rho}{\lvert(q-1)\xi\pi_q\rvert}\Big)^{n_0}$

12 (Sz: 11to15)	
#	Expr
16	$(m_1,\ldots,m_k\colon q_1,\ldots,q_k)$
15	$[\gamma]^{(\sigma-1)^{l(\gamma)-1}}$
15	$(\sigma-1)^{l(\gamma)-1}$
11	$\Big(\vec{a}+\vec{u},\vec{b}+\vec{v}\Big)$
8	$\sup_{-\frac{T}{2}\le t\le\frac{T}{2}}$
8	$\frac{G_n^{(k)}(\xi)}{[n]_{q_k}^!}$
7	$\Big(\Lambda^3U^\vee\to H^3\Big(C(W)^G, Q/Z\Big)\Big)$
7	$(r,n;l_1,\ldots,l_m)$
7	$\big(N_{K_i/F}(\gamma)\big)^{p^{n-i-1}}$
7	$(P)^{(g+2)/(m-g-1)}$

12 (Sz: 16to20)	
#	Expr
6	$(w_{1,k}w_{2,l}-w_{1,l}w_{2,k})$
5	$H^{i+2^n-1,i+2^{n-1}-1}$
4	$H^{i+2^n-2,i+2^{n-1}-1}$
4	$\{(2\alpha,2\beta)\,\lvert\,\alpha+\beta=r,\alpha\neq0\}$
4	$(w_{1,k}w_{2,l}-w_{1,l}w_{2,k})^n$
4	$(1-q^0,1-q,\cdots,1-q^{n-1})$
3	$O(L_{x,\zeta,+}-L_{x,\zeta^3,-})$
3	$(\sigma-1)^{2^n-2^{n-2}+s-1}$
3	$(x_1,r^{-1}x_2,\cdots,r^{-1}x_n)$
3	$[\alpha]^{(\sigma-1)^{2^n-2^{n-2}+s-1}}$

13 (Commutative rings and algebras)

13 (Sz: 2)	
#	Expr
6929	-1
5899	x_1
3482	f_1
3247	a_1
2454	ij
2371	x_n
2303	x_2
2266	d_1
2146	x_i
2128	a_i
2058	i_1
1751	x^2
1742	X_1
1705	f_n
1636	$\bigotimes_R$

13 (Sz: 3)	
#	Expr
4160	$n-1$
2890	$i=1$
2611	$i+1$
2522	$n+1$
2141	$i-1$
1589	$d-1$
1148	Ext
1115	i,j
1099	$k+1$
1038	reg
1016	$j=1$
898	$j+1$
887	$k-1$
860	$i=0$
858	Tor

13 (Sz: 4)	
#	Expr
264	I^{n+1}
223	$a_{1,1}$
195	I_{n-1}
187	$\bigoplus_{n\geq 0}$
184	$R^{1/q}$
162	m^{n+1}
141	$a_{i,j}$
141	I^{j+1}
137	c_{d-1}
133	a_{i+1}
131	d_{n+1}
131	(p,p')
130	a_{n-1}
130	(k,k')
126	x_{i+1}

13 (Sz: 5)	
#	Expr
566	$(f_1,\ldots,f_n)$
435	$\sum_{i=1}^{n}$
329	$[x_1,\ldots,x_n]$
284	$[x_1,\cdots,x_n]$
203	Ext_R^i
195	$[v_1,\ldots,v_m]$
173	$\prod_{i=1}^{n}$
154	Tor_i^R
153	$[T_1,\ldots,T_n]$
149	$\sum_{j=1}^{n}$
148	$\sum_{i=0}^{n}$
134	$\sum_{i=1}^{k}$
127	$(x_1,\ldots,x_n)$
119	$\sum_{i=1}^{r}$
99	$\sum_{j=1}^{m}$

13 (Sz: 6)	
#	Expr
163	(f_1,f_2,f_3)
72	$(f_1,\ldots,f_n)^*$
69	$[x_1,x_2,x_3]$
65	(x^2,y^2,z^2)
64	Sec_{d-1}
50	$a_{t,t+1}$
46	$x_{i_1\ldots i_n}$
44	(x_1,x_2,x_3)
39	$P_{n,n-1}$
39	$(x_1,\cdots,x_i)R$

13 (Sz: 7)	
#	Expr
109	$k[v_1,\ldots,v_m]$
82	$m-1,n-1$
71	$(f_1^q,\ldots,f_n^q)$
70	$(d,A,n+1)$
70	$0,p,n-p$
66	$B_{rig,K}^{\dagger,s}$
57	$\sum_{i=0}^{d-1}$
47	$\left(a+p_i^h\right)^{[p^n]}$
45	$d_1+\ldots+d_n$
45	$0,1,n+1$

13 (Sz: 8)	
#	Expr
64	$(d,A,n+1)_m$
53	$m-1,\ n-1$
53	$d_1+d_2+d_3$
40	$\mu_{0,1,2,3}$
40	$[x_1,x_2,x_3,x_4]$
29	$\sum_{k+l=n+1}$
28	$(d_1+d_2+d_3)$
26	$P_{n,n-3}^{(q^2)}$
26	$(I,x_n,\ldots,x_{i+1})$
25	$\bigotimes_{k[v_1,\ldots,v_m]}$

13 (Sz: 9)	
#	Expr
69	$c-1,s+1,t$
59	$1,q,n-q-1$
50	$(E_1/H,E_2/H)$
25	$\frac{2s+2p+K}{2}$
25	$\frac{n+d-2}{d-1}$
22	$\psi_1^{0,p,n-p}$
20	$\psi_3^{0,1,n+1}$
19	$\varphi_3^{0,p,n-p}$
18	$\varphi_2^{0,p,n-p}$
18	$1,1,m+n+1$

13 (Sz: 10)	
#	Expr
51	$\frac{d_1+d_2+d_3}{2}$
16	$(I^2)_{m-1,\,n-1}$
16	$(Syz(f_i,i\in I)(0))$
14	$(a_0,\ a_1,\ a_2)$
13	$G_{c-1,s+1,t}$
13	$2m-1,\ 2n-1$
12	$*a_1^{t_1}\cdots a_k^{t_k}$
12	$Tor_{k[v_1,\ldots,v_m]}$
12	$\left(D_0 \bigcup \bigcup_{i=1}^{j} D_i\right)$
12	$(ImQ_{r,r+k})_{(i,j)}$

13 (Sz: 11to15)	
#	Expr
44	$\frac{d_1+\ldots+d_n}{n-1}$
26	$(m^{i+1}I^jM + I^{j+1}M)$
26	$(M/I^nM, N/J^mN)$
26	$(f_1T_1 + \ldots + f_nT_n + f_0)$
23	$\sum_{m=\lceil q\sigma\rceil}^{\lceil q\rho\rceil-1}$
19	$\varphi_1^{1,q,n-q-1}$
18	$(f_1 - T_1Z, \ldots, f_n - T_nZ)$
17	$(Tor_i(M/I^nM, N/J^mN))$
17	$(-a_1d_1 - \cdots - a_rd_r)$
16	$\psi_2^{1,q,n-q-1}$

13 (Sz: 16to20)	
#	Expr
10	$\sum_{m=\lceil q\nu_k\rceil}^{\lceil q\nu_{k+1}\rceil-1}$
8	$i = 1, \ldots, t; j = 1, \ldots, t+1$
7	$(d_1, \ldots, d_{n+1}; k_1, \ldots, k_n)$
6	$(x_1x_4, x_0x_4, x_1x_3, x_0x_3)$
6	$((e-1)r + p,\ (e-1)r' + p')$
6	$(m^{i+1}I^jM + I^{j+1}M) \bigcap xM$
6	$(P_1^{e_1}P_2^{e_2} \centerdot \ldots \centerdot P_n^{e_n})^{\widetilde{\star}}$
6	$\alpha_{i_1} + \cdots + \alpha_{i_t} + i_{t+1} - i_t - 1$
6	$x_1^{n_1-1}x_2^{n_2}\cdots x_t^{n_t}M$
6	$\left[e(A)^2 + e(A)I(A) + 2I(A) - e(A)\right]$

14 (Algebraic geometry)

14 (Sz: 2)	
#	Expr
48285	-1
16872	H^0
14855	x_1
10262	H^1
9874	ij
8917	a_1
8501	c_1
8250	$2n$
8239	O_X
6947	z_1
6927	x_2
6699	a_i
6679	f_1
6288	d_1

14 (Sz: 3)	
#	Expr
11067	$n-1$
10904	$i=1$
8099	$n+1$
6538	$i+1$
6320	$\frac{1}{2}$
5536	$i-1$
4312	$k-1$
3968	$k+1$
3653	i,j
3402	$j=1$
3029	$r-1$
2911	$d-1$
2814	π^{-1}
2623	f^{-1}

14 (Sz: 4)	
#	Expr
606	$2n+1$
570	$\left(\widehat{n},\widehat{d}\right)$
457	$\prod_{i\in I}$
452	$(2g-2)$
443	$2n-1$
415	$2k+1$
376	$-1/2$
352	(z_1,z_2)
327	PGL_n
320	$P^{(s+1)}$
311	Ext^1
309	(λ_0,ϵ_0)
304	P^{n-1}
302	$\sum_{i\in I}$
291	$2n-2$

14 (Sz: 5)	
#	Expr
1091	$\sum_{i=1}^{n}$
736	$\sum_{i=1}^{r}$
557	$(f_1,\ldots,f_n)$
479	$\prod_{i=1}^{n}$
461	$\sum_{i=1}^{k}$
407	$\sum_{i=1}^{m}$
323	$\sum_{j=1}^{n}$
301	$\sum_{i=1}^{s}$
300	$n-s+1$
291	$n-r+1$
282	$\sum_{i=0}^{n}$
241	$[x_1,\cdots,x_n]$
233	$\frac{1}{2\pi i}$
230	$\prod_{i=1}^{r}$
219	$\sum_{i=1}^{t}$

14 (Sz: 6)	
#	Expr
229	$(C-M(E)E)$
181	(f_1,f_2,f_3)
175	(x_1,x_2,x_3)
125	Y_{n-s+1}
122	Z_{n-r+1}
102	a_{t+c-2}
86	$\left(X,\Omega^i_{X/S}\right)$
83	$\left(x^a y^b z^c\right)$
80	$\Omega^{\,i}_{X/S}$
74	$\frac{dt_1}{t_1}$

14 (Sz: 7)	
#	Expr
175	$k-1,k,1$
118	$(\alpha;n,d,k)$
117	$(U\times X)^2_U$
107	$\sum_{i=1}^{n-1}$
100	$\sum_{i=1}^{n+1}$
96	a,b,c,d
91	$\sum_{i=0}^{n-1}$
72	$m-1,n-1$
71	$\omega_{X\widehat{\vert}Y}$
71	$k[v_1,\ldots,v_m]$

14 (Sz: 8)	
#	Expr
64	$(d,A,n+1)_m$
64	(n_1,n_2,d_1,d_2)
62	(x_1,x_2,x_3,x_4)
62	$O_{(U\times X)^2_U}$
62	$\left(-\pi_!\left(\widehat{V}^*\bigotimes V\right)\right)$
61	$\frac{B(y)}{(b-1)y}$
55	$M^{\,1/r}_{g,n}$
51	$d_1+d_2+d_3$
50	$D^{-1/2}_{X/Y}$
48	$m-1,\ n-1$

14 (Sz: 9)	
#	Expr
146	i,j,k,l,m
102	$\frac{abx+1}{aA(x)}$
69	$c-1,s+1,t$
59	$1,q,n-q-1$
46	$(a,b,c,d;z)$
43	$(\alpha\colon n,d,n+1)$
41	ℓ,B,g_2,g_3
40	$(1,3;d_1,d_2)$
39	$g;k_1,\cdots,k_n$
36	$\left(Z_{tr}\left((P^1)^n-A^n\right)\right)$

14 (Sz: 10)	
#	Expr
80	$\frac{abx+1}{abA(x)}$
65	$\widetilde{L}^{k-1,k,1}_2$
48	$\frac{d_1+d_2+d_3}{2}$
42	$c_{i,j,k,l,m}$
41	$\frac{uv-1}{(uv)^5-1}$
39	$M^{\,1/r,m}_{g,n}$
36	$\frac{aby+1}{abA(y)}$
30	$om_{O_{(U\times X)^2_U}}$
30	$C_{i,j,k,l,m}$
30	L_{ℓ,B,g_2,g_3}

14 (Sz: 11to15)	
#	Expr
51	Dq_1q_2, Dq_1q_2
45	$\widetilde{J}^{Dq_1q_2,Dq_1q_2}$
44	$\frac{d_1+\ldots+d_n}{n-1}$
34	$(\ell, N; \lambda_1, \ldots, \lambda_N)$
32	$\left(f,CP^1,a_1,\ldots,a_{3d-1}\right)$
32	$p+s_1^{\alpha}, q+s_2^{\alpha}, s_3^{\alpha}$
31	$\frac{\mu(x-y)}{A(y)B(x)}$
30	$(a_1t^{v_1}, \ldots, a_nt^{v_n})$
26	$S^{p+s_1,q+s_2,s_3}$
26	$(f_1T_1+\ldots+f_nT_n+f_0)$

14 (Sz: 16to20)	
#	Expr
32	$S^{p+s_1^{\alpha},q+s_2^{\alpha},s_3^{\alpha}}$
22	$\frac{\partial^{i+j+k}w}{\partial x^i\partial y^j\partial z^k}$
16	$\left(C_*\left(Z_{tr}\left((P^1)^n\right)\right)/C_*\left(Z_{tr}\left((P^1)^n-A^n\right)\right)\right)$
15	$(V, F_0^{\bullet}, F_1^{\bullet}, F_2^{\bullet},\ Triv^{\bullet})$
14	$S^{p+s_1^{\beta},q+s_2^{\beta},s_3^{\beta}}$
12	$\left(U_{\xi}\bigotimes p_X^*E_1\bigotimes p_{M_{\xi}}^*U_x^*\right)$
12	$\frac{\left(\frac{3}{2}-s\right)\left(\frac{1}{2}-s\right)}{s(s-1)(2-s)}$
11	$\left(s+n, n+\frac{3}{2}; s+\frac{1}{2}; l^2\right)$
11	$\left(n-s+2, n+\frac{1}{2}; \frac{3}{2}-s; l^2\right)$
11	$\left(\omega^{\cdot}_{X\widehat{\vert}Y}/b\omega^{\cdot}_{X\widehat{\vert}Y}\right)$

15 (Linear and multilinear algebra; matrix theory)

15 (Sz: 2)	
#	Expr
4353	-1
2410	ij
1706	a_1
1502	i_1
1312	A^*
1262	$2k$
1245	x_1
1173	$2n$
1139	I_m
1108	A_1
1071	x_i
1011	$A^\dagger$
963	B_1
807	C_1
775	X_1

15 (Sz: 3)	
#	Expr
1563	$n-1$
1523	$\frac{1}{2}$
1354	$i=1$
1043	$j=1$
747	$k-1$
727	i,j
722	$n+1$
666	$k+1$
578	$i-1$
381	$m-1$
372	$j-1$
371	$i+1$
364	$\widehat{\mu}^N$
361	$k=1$
354	$1/2$

15 (Sz: 4)	
#	Expr
172	$C^{m\times m}$
162	$I_m - A$
149	$2k+1$
148	$-1/2$
132	$C^{m\times n}$
130	$\frac{1}{N^2}$
130	$\lim_{N\to\infty}$
115	$2k-1$
109	i_{k+1}
103	$a_{i,j}$
99	$\lim_{n\to\infty}$
99	$-\frac{1}{2}$
84	$(I_m + A)$
80	$F^{m\times n}$
78	q^{1+N}

15 (Sz: 5)	
#	Expr
280	$[\,A, B\,]$
209	$\sum_{i=1}^{N}$
164	$(\,A+B\,)$
140	$\sum_{j=1}^{n}$
140	$i,j=1$
133	$A^\dagger_{M,N}$
127	$\sum_{i=1}^{n}$
120	$\prod_{i=1}^{n}$
108	$\prod_{j=1}^{n}$
100	$\sum_{k=1}^{n}$
93	$(1+o(1))$
90	$\prod_{j=1}^{k}$
89	$(x_j - x_i)$
84	$(a_1,\cdots,a_n)$
82	$\sum_{j=1}^{k}$

15 (Sz: 6)	
#	Expr
54	$\omega_{p,n-p}$
52	$[\,A, A^*\,]$
50	$(X_1,\, X_2)$
49	$comp^{-1}$
43	$(\lambda_1 I_m - A)$
36	$[\,A, B\,]^\dagger$
35	$j = r_1 + 1$
34	$(k[T]/T^n)$
33	$A^-,\, B^-$
29	$(\,A+B\,)^-$

15 (Sz: 7)	
#	Expr
132	$1 \le i,j \le n$
50	$\prod_{i,j=1}^{n}$
38	$k_1,\cdots,k_m$
35	$i-1, j-1$
34	$(\rho(A)I_n - A)$
32	$(A - \rho(A)I_n)$
29	$\sum_{i=0}^{k-1}$
29	$(z, dt, d\zeta)$
28	$p+1, q+1$
28	$(n-1, n-1)$

15 (Sz: 8)	
#	Expr
41	$1 \le i,j \le 2n$
33	$\Sigma_{k_1,\cdots,k_m}$
28	$n(n-1)/2$
28	$\det_{1\le i,j\le n}$
23	$\left(\Sigma_{(i)}^T\Sigma_{(i)} - zI\right)$
21	$(\,D - CA^-B\,)$
18	$\frac{c\alpha_j}{\alpha_j - 1}$
15	$V^{p+1,q+1}$
14	$\sum_{\varphi\in Irr_p(B)}$
13	$\omega_{\frac{n}{2},\frac{n}{2}}$

15 (Sz: 9)	
#	Expr
28	$c - a\left(a+bq^k\right)$
25	$a^{(e)}_{i-1,j-1}$
21	$(\rho+x)(1+x)^{n-2}$
15	$\left(\beta_1^\pi,\ldots,\beta_{n-1}^\pi\right)$
13	$i,j = 1,\cdots,N$
13	$(1-\rho+\rho u+xu)$
13	$\left(\,AA^\dagger - A^\dagger A\,\right)$
13	$\frac{\log q_{l+1}}{q_l}$
13	$(\delta(n-1, n-1))$
13	$0 \le i,j \le n-1$

15 (Sz: 10)	
#	Expr
32	$\sigma_1,\ldots,\sigma_s \in S_N$
28	$(-1)^{n(n-1)/2}$
23	$\left(\Sigma_{(i)}^T\Sigma_{(i)} - zI\right)^{-1}$
21	$(s;\alpha_1,\cdots,\alpha_{2k})$
16	$[\,p(X_1, X_2)\,]$
14	$\frac{\left(1-aq^{2n}\right)}{(1-a)}$
13	
13	$\left(\Sigma_{(i)}\Sigma_{(i)}^T - zI\right)^{-1}$
12	$A_1,\cdots,A_{2m},\pi$
11	$\frac{\left(1-aq^{2j}\right)}{(1-a)}$
510	$(\,A_1 - B_1XC_1\,)$
510	$(n-2a-b-c+1)$

15 (Sz: 11to15)	
#	Expr
32	$\sum_{\sigma_1,\ldots,\sigma_s \in S_N}$
23	$(a_1, \cdots, a_n \colon b_1, \cdots, b_m)$
21	$\frac{1}{(\rho+x)(1+x)^{n-2}}$
20	$A_1^-, \cdots, A_k^-$
15	$\left(A^{-1/2} B A^{-1/2}\right)$
15	$(i_1, \cdots, i_s \vert j_1, \cdots, j_s)$
14	$\min_{A_1^-, \cdots, A_k^-}$
13	$[C_0(V,q,I), C_0(V,q',I)]$
13	$\frac{x_j - x_i}{x_j + x_i}$
13	$\left\vert \Gamma(z) \bigcap D_{i-1}^{i-1} \right\vert$

15 (Sz: 16to20)	
#	Expr
13	$(t_1, \cdots, t_n; t_{n+1}, \cdots, t_{n+m})$
10	$\frac{\left(1-bcq^{2n}/a\right)}{(1-bc/a)}$
9	$\frac{\left(1-cdq^{2k}/a\right)}{(1-cd/a)}$
9	$T^{i_1 \ldots i_{l-1} i_l i_{l+1} \ldots i_k}$
9	$i_1 \ldots i_{l-1} i_l i_{l+1} \ldots i_k$
9	$w_a(\sigma_1,\ldots,\sigma_s)(I\gamma_n(a)) = J(a) \forall a \in [n]$
8	$\frac{\left(1-bcq^{2k}/a\right)}{(1-bc/a)}$
8	$(J^2 - 2a_i J + (a_i^2 + b_i^2) I)$
7	$[\, E_{T_1}(\, X + T M^- S\,) F_{S_1}\,]$
7	$(\lambda_{j\beta} - \lambda_{j\alpha})^{\theta_{j\alpha}+\theta_{j\beta}-2}$

16 (Associative rings and algebras)

16 (Sz: 2)	
#	Expr
31000	-1
7066	ij
5636	x_1
4725	a_1
3692	$\bigotimes_A$
3391	i_1
3191	op
3148	x_i
3074	x_2
2906	$\bigotimes_R$
2772	e_i
2665	a_i
2623	H^*
2449	$2n$
2436	e_1

16 (Sz: 3)	
#	Expr
6172	$n-1$
3835	$n+1$
3642	$i+1$
2947	$i=1$
2007	$k-1$
1883	α^{-1}
1874	Ext
1791	$i-1$
1583	S^{-1}
1516	i,j
1474	$k+1$
1397	$\frac{1}{2}$
1326	$j=1$
1214	$i=0$
1042	$j+1$

16 (Sz: 4)	
#	Expr
280	$2k+1$
273	PGL_n
263	x_{n+1}
237	$2n+1$
236	a_{n-1}
235	$N_{K/F}$
227	$\sum_{i,j}$
215	H^{i+1}
208	$S_{\alpha^{-1}}$
200	$\bigoplus_{n\geq 0}$
198	A_{n-1}
198	${}^pRed$
192	$\bigoplus_{i\in I}$
185	a_{i+1}
181	$G_{m,n}$

16 (Sz: 5)	
#	Expr
510	$\sum_{i=1}^{n}$
247	$\sum_{i=0}^{n}$
241	$\sum_{i=1}^{k}$
190	$\sum_{j=1}^{n}$
159	$H^D_{P,R}$
140	$\sum_{k=1}^{n}$
126	$(x_1,\cdots,x_n)$
119	$(q-q^{-1})$
117	$(21)^{2k+1}$
117	$\sum_{i=1}^{\infty}$
111	$\sum_{k=0}^{n}$
111	$(-1)^{n+1}$
108	$\sum_{i=1}^{s}$
107	$0,1,0$

16 (Sz: 6)	
#	Expr
111	$(E(V)-cF)$
62	$1(21)^{2k+1}$
62	Tor^{R}
59	$K^{q}_{b_1,b_2}$
55	$[x;\sigma,\delta_\omega]$
45	Ext^{1}
42	(r_n,s_n,t_n)
42	F_{S-alg}
42	$\beta-co-O$
42	$A^{\bigotimes 2}_{n-1}$

16 (Sz: 7)	
#	Expr
95	$0\leq s\leq t\leq T$
90	$\sum_{j=1}^{n-1}$
80	$\sum_{i=1}^{n-1}$
75	$\sum_{k=1}^{n-1}$
75	$\sum_{i=0}^{n-1}$
70	$0,p,n-p$
52	$k+1,k+2$
51	$\sum_{i=1}^{N-1}$
46	$h^{-1}_{\alpha_i,l}$
45	$0,1,n+1$

16 (Sz: 8)	
#	Expr
46	$2\lambda, e_i\bar{e}_j$
38	$(t_1,t_2;t_3)$
36	$\sum_{p=1,2,3}$
31	$\sum_{k+l=n+1}$
29	$w_{r,(\gamma_1,\cdots,\gamma_n)}$
28	$\left\|\sum_{g\in F} a_g T_g\right\|$
26	$P^{(q^2)}_{n,n-3}$
25	(T^{i+1},S^{i+1})
25	$\sum_{i\in[0,p-1]}$
24	$M_{m-1,n-1}$

16 (Sz: 9)	
#	Expr
59	$1,q,n-q-1$
50	$[n-m+1,\cdots,n]$
48	$(h^0\bigotimes\cdots\bigotimes h^n\bigotimes x)$
33	$m+n+\ell-k-1$
30	$2,\bar{e}_i,\bar{e}_j$
27	$(H;E_1,\ldots,E_n)$
25	$(n-r-s-t+1)$
24	$e_{2\lambda,e_i\bar{e}_j}$
24	$(G_{m,n}(Z[t^{\pm 1}]))$
22	$f_{2\lambda,e_i\bar{e}_j}$

16 (Sz: 10)	
#	Expr
30	$C_{2,\bar{e}_i,\bar{e}_j}$
22	$'_{n-i_1-i_2-1}$
21	$(A,L,s_L,t_L,\gamma_L,\pi_L)$
20	$C(g_i)\bigcap{}^x C(g_j)$
20	$(n-\ell(q))/2$
18	$\overset{1\leftarrow t\rightarrow 0}{\longrightarrow}$
16	$1+\sigma+\cdots+\sigma^{p-1}$
15	$S^3\vee\cdots\vee S^{2d+1}$
14	$(u_1^\infty,u_2^\infty,\ldots,u_k^\infty)$
14	$(v-ce^i,w)_{i,0}$

16 (Sz: 11to15)	
#	Expr
62	$(H; E_1, E_2, E_3, E_4)$
28	$\left(\alpha(h \triangleleft \gamma) x \alpha(h)^{-1}\right)$
24	$\bigoplus_{\substack{i,j \geq 0 \\ j-i=r}}$
24	$\frac{i,j \geq 0}{j-i=r}$
21	$(H^{i+1}T, H^{i+1}S)$
20	$(G_q(m,n), [n-m+1, \cdots, n])$
20	$(-1)^{(n-\ell(q))/2}$
19	$\varphi_1^{1,q,n-q-1}$
18	$(1, \ldots, d \vert 1, \ldots, d)$
16	$\psi_2^{1,q,n-q-1}$

16 (Sz: 16to20)	
#	Expr
15	$\left(\alpha(h \triangleleft \gamma) x \alpha(h)^{-1}\right) \triangleleft g^{-1}$
13	$(J_v \bigotimes J_v E_v J_v + J_v E_v J_v \bigotimes K_v)$
12	$(w_{1,k} w_{2,l} - w_{1,l} w_{2,k})$
11	$\left[\sum_{j \neq i} k\langle A_m^j \rangle + \varphi(k\langle B \rangle)\right]$
10	$(a_1, a_2; b_1, b_2; c_1, c_2)$
9	$(c-2+, C+-, C+-, c+1-)$
9	$(b+1+, C-+, C-+, c+2-)$
9	$(c+2+, C++, C++, c+1+)$
8	$\left((1-q)x - \frac{q^2 z}{1-q}, (1-q)x + qz\right)$
8	$\frac{(-1)^{(n-\ell(q))/2}}{\ell(q)}$
8	$C \underset{A}{\bigotimes} C \underset{A}{\bigotimes} M \underset{B^\circ}{\bigotimes} D^\circ \underset{B^\circ}{\bigotimes} \epsilon^\circ$
7	$(N-1)^{a_{N-1} - m_{N-1} + m_{N-2}}$

17 (Nonassociative rings and algebras)

17 (Sz: 2)	
#	Expr
22414	-1
7450	ij
5410	a_1
4765	x_1
4340	z_1
4310	$2n$
4108	i_1
4085	z_2
4057	a_2
3817	U_q
3685	α_i
3284	x_2
3088	e_1
2850	$2m$
2592	$2k$

17 (Sz: 3)	
#	Expr
7714	$\frac{1}{2}$
4455	$n-1$
3202	$i+1$
2676	q^{-1}
2632	$i=1$
2460	$i-1$
2455	$n+1$
2293	$k+1$
2137	i,j
1700	$k-1$
1526	$j=1$
1167	$j+1$
1144	$m\|n$
1054	$j-1$
1032	a_{ij}

17 (Sz: 4)	
#	Expr
697	p,p'
642	$2m+1$
395	$2n-1$
360	$-\frac{1}{2}$
344	$[t,t^{-1}]$
310	$-n-1$
306	$-1/2$
300	$2k+1$
281	$2n+1$
223	i_{k+1}
196	$\sum_{i\in I}$
186	a_{i+1}
181	$\Theta\bigcup\Theta^{\perp}$
179	$\delta_{i,j}$
177	K_i^{-1}

17 (Sz: 5)	
#	Expr
440	$\sum_{i=1}^{n}$
289	$q-q^{-1}$
285	z_1-z_2
273	$i,i+1$
265	$\sum_{j=1}^{n}$
250	$a;i,j$
239	$q-q^{-1}$
195	z^{-n-1}
190	$\sum_{n=0}^{\infty}$
184	$\sum_{k=0}^{\infty}$
174	$[gl(m\|n)]$
173	U_q^{fin}
167	a,b,c
154	$i+1,i$
147	$i,j=1$

17 (Sz: 6)	
#	Expr
101	$r+s-2p$
89	$S_{i,i+1}$
82	$\frac{z_2}{az_1}$
82	$-\frac{4}{3}\Lambda_0$
81	$e^{2\pi i z_2}$
78	$a_1a_5;i$
76	$a_2a_3;j$
67	$\delta_{m+n,0}$
66	(x_1,x_2,x_3)
66	$p,p'+p$

17 (Sz: 7)	
#	Expr
164	a,b,e,f
116	$m+p\|n+q$
112	$g^4_{(m,m-1)}$
102	$L(0)-\frac{c}{24}$
95	$0\le s\le t\le T$
91	$i-1,i-1$
79	$\sum_{i=1}^{n-1}$
77	$a,b;i,j$
74	$(0\le i,j\le d)$
73	$[sl(n+1\|m)]$

17 (Sz: 8)	
#	Expr
75	$l_{m+p\|n+q}$
48	$Y^{a_2}_{a_2e;1}$
46	$T(r+s-2p)$
43	$V^{0,1,2,3}$
43	$q^{L(0)-c/24}$
42	$(w^{-p}\zeta_1/\zeta_2)$
39	$M(r+s-2p)$
35	$-\frac{1}{2}\sigma_{1+1}$
35	$1-q^{i-d-1}$
35	$a_4+a_7+a_9$

17 (Sz: 9)	
#	Expr
69	$a^*_{i-1,i-1}$
66	$Y^e_{a_2'a_2;1}$
64	$q_\tau^{L(0)-\frac{c}{24}}$
59	$1,q,n-q-1$
51	$(U(x_n)w_n,x_n)$
48	$Y^e_{a_2a_2';1}$
48	$(h^0\bigotimes\cdots\bigotimes h^n\bigotimes x)$
42	$(U(x_1)w_1,x_1)$
39	$S_0^-S_1^-S_2^-$
38	$\frac{\xi^j z_2}{q^r z_1}$

17 (Sz: 10)	
#	Expr
70	$\chi^{p,p'}_{a,b,c}$
49	$p^{(i-1)}, p^{(i-1)\prime}$
39	$Y^{a_2}_{a_3' a_1; j}$
39	$\P^{p,p'}_{a,b,c}$
26	$\frac{\xi^{k'} z_2}{q^r z_1}$
22	$'_{n-i_1-i_2-1}$
22	$a_1 \cdots a_{m b_1 \cdots b_m}$
21	$e_4^{(a_1+a_2+a_3)}$
21	$(\ell_1, \ell_2, \ell_3; \Gamma)$
20	$(x_1, x_2, \cdots, x_7, m, s, p)$

17 (Sz: 11to15)	
#	Expr
72	$\P^{p,p'}_{a,b,e,f}$
62	$Y^{a_4;(1)}_{a_1 a_5; i}$
60	$Y^{a_5;(2)}_{a_2 a_3; j}$
45	$Y^{a_1'}_{a_2 a_3'; i}$
39	$Y^{a_3'}_{a_2 a_1'; i}$
37	$\beta^{p,p'}_{a,b,e,f}$
34	$\Psi^{1,1}_{a_1,a_2,e}$
33	$(a_1 + a_2 + a_3 + a_4)$
33	$e_4^{(a_1+a_2+a_3+a_4)}$
33	$\big(\bigoplus_{\Lambda \in P^+} L(\Lambda) \big)$

17 (Sz: 16to20)	
#	Expr
30	$(w_0, w_1, w_2, w_3; z_1, z_2)$
19	$\P^{p,p'+p}_{a',b',e,f}$
15	$i_j - i_{j-1} + i_{j-2} - i_{j-3} - 1$
15	$\big(b; j_1', j_2', \ldots, j'_{d^R-1}\big)$
14	$\big(a; i_1', i_2', \ldots, i'_{d^L-1}\big)$
13	$(J_v \bigotimes J_v E_v J_v + J_v E_v J_v \bigotimes K_v)$
12	$\delta\Big(\frac{z_2}{a z_1}\Big) - \delta\Big(\frac{z_1}{b z_2}\Big)$
11	$\frac{\theta_{i-2} - \theta_{i+1}}{\theta_{i-1} - \theta_i}$
11	$i_1! i_2! \cdots i_{n-1}! \langle \sigma \rangle_{i_{n-1}}$
10	$(\xi^{i+j-1}, \xi^{-1} q^{r+s}, \xi^{-j} z_1)$

18 (Category theory; homological algebra)

18 (Sz: 2)	
#	Expr
12574	-1
2337	ij
2144	(-1)
1804	x_1
1602	op
1600	Ho
1584	i_1
1324	f_1
1247	O_X
1207	a_1
1134	f^*
1130	X_i
1081	X_1
1007	x_2
986	π_1

18 (Sz: 3)	
#	Expr
2795	$n+1$
2773	$n-1$
1654	$i+1$
1066	$k-1$
1066	$i-1$
986	$i \in I$
876	Ext
839	$i=1$
822	$k+1$
706	i,j
632	f^{-1}
609	s^{-1}
587	$j+1$
544	ijk
520	$m-1$

18 (Sz: 4)	
#	Expr
344	π_1^{-1}
294	π_2^{-1}
276	$pro-$
223	π_3^{-1}
182	M^{-TM}
158	S, S'
149	(x_1,x_2)
145	$[i_4,\alpha_4]$
143	$[i_1,\alpha_1]$
138	$[i_3,\alpha_3]$
135	Hom_{RS_n}
132	$\circ_{i-1}$
131	(A, A')
120	Z_{k-1}
119	Σ^{n-1}

18 (Sz: 5)	
#	Expr
201	$F_{I_2}^{u_2}$
153	$\sum_{i=1}^{n}$
111	$n+m-1$
94	$F_{I_1}^{u_1}$
73	$\sum_{j=1}^{n}$
70	$L_n^{\delta,\epsilon}$
67	A_1, A_2
67	i,j,k
66	$(X; N(G))$
64	$q^*_{S\times X}$
62	$[k', \epsilon']$
61	$COMOP$
61	$(pr_2 i)^!$
59	$(1_A \bigotimes \epsilon_A)$
59	$(h \triangleleft \gamma)$

18 (Sz: 6)	
#	Expr
64	$(X; p_X, R)$
57	$j, j+1*$
45	$(a_i \mapsto f_i)_i$
44	$\{a_i \mapsto f_i\}_i$
44	$(-)^{i_1+i_2}$
42	$d^{\gamma}_{p-I_2}$
30	$(b_i \mapsto f_i)_i$
29	(x_1,x_2,x_3)
29	$(f_1,f_2)^{-1}$
28	$\left(\langle\xi\rangle^L, \langle\xi\rangle \right)$

18 (Sz: 7)	
#	Expr
117	$(U \times X)^2_U$
66	$[i_4', \alpha_4']$
66	$[i_3', \alpha_3']$
65	$[i_1', \alpha_1']$
63	$[i_2', \alpha_2']$
58	$\sum_{i=1}^{n+1}$
50	$(\Delta[n] \bigotimes \Delta[m])$
48	$((h \circ_i f) \circ_j g)$
48	$j_1 + \cdots + j_k$
37	$(-1)^{\lvert f\rvert+\lvert g\rvert+\lvert b\rvert}$

18 (Sz: 8)	
#	Expr
62	$O_{(U\times X)^2_U}$
33	$\alpha^{-1}_{A,B,E}$
23	$\left(\langle\xi\rangle^L, \langle\xi\rangle \right)^{-1}$
22	$i_1 + i_2 + i_3$
21	$(x' \bigotimes y' \bigotimes z')$
21	$\sum_{\xi \in basis\ of\ V}$
19	$(X, Y; p_X, R)$
16	$\nu \in Y^\vee / pY^\vee$
16	$1_C \times K_e \times 1_C$
16	$(Hol(Z_{p^r}); Z)$
514	$(i, j = 1, \ldots 3)$

18 (Sz: 9)	
#	Expr
36	$((h \circ_s \mu) \circ_{i-1} f)$
29	$(X_1 \vee \cdots \vee X_{k-1})$
22	$(-)^{i_1+i_2+i_3}$
22	$(X \times X; O_\Delta, O_\Delta)$
19	$(C_U - Aff^{\sim,\tau})$
18	$(n-m+i, m-1)$
16	$\bigotimes_{j=1}^{n+m-1}$
16	$1_{1_C \times K_e \times 1_C}$
16	$\frac{k_i - k_i'}{r_i}$
16	$\sum_{\nu \in Y^\vee/pY^\vee}$

18 (Sz: 10)	
#	Expr
30	$om_{O_{(U\times X)^2_U}}$
14	$\sum_{i=n"+1}^{n+1}$
14	$(\Sigma X, \Sigma Y, p_X; R)$
12	f^{u_1,u_2}_{0,I_2}
12	$(((h \circ_i f) \circ_j g) \circ_k b)$
11	$(E_{i,\star} \circ_\star E_{j,k})$
11	$(((h \circ_s \mu) \circ_i f) \circ_j g)$
10	$\left(u_0^- \times v_1 \times w_0^-\right)$
10	$(x_1 \bar{\star} x_2 \bar{\star} x_3)$
9	$\left(y_i e^{-\tilde{\theta}_j} / y_j\right)$

18 (Sz: 11to15)	
#	Expr
28	$\left(\alpha(h \triangleleft \gamma) x \alpha(h)^{-1}\right)$
19	$[\Sigma^{1-n} L(\Sigma^{n-1} X)]$
16	$(((h \circ_s \mu) \circ_{i-1} f) \circ_{j-1} g)$
15	$i+1, j+1, k+1$
13	$(\sigma^{-1} \circ (\sigma^{-1} \times 1_{1_C}))$
12	$\{mreg - HMOD_A, mreg - Hilb_A\}$
12	$((\alpha, i), (\beta, j))$
12	$\bigoplus_{\frac{i,j \geq 0}{j-i=r}}$
12	$(\kappa \lvert p \rvert)^{l/2} vol(Y^{\vee})$
12	$\frac{i,j \geq 0}{j-i=r}$

18 (Sz: 16to20)	
#	Expr
15	$\left(\left(\alpha(h \triangleleft \gamma) x \alpha(h)^{-1}\right) \triangleleft g^{-1}\right)$
9	$(c-2+, C+-, C+-, c+1-)$
9	$(b+1+, C-+, C-+, c+2-)$
9	$(c+2+, C++, C++, c+1+)$
8	$(\nearrow_1, \nearrow_2, \searrow_1, \searrow_2, \swarrow_1, \swarrow_2, \nwarrow_1, \nwarrow_2)$
8	$\left(\left(\alpha(h \triangleleft \gamma) x \alpha(h)^{-1}\right) \triangleright g^{-1}\right)$
7	$(\epsilon; g \lvert b; (\alpha_1, \beta_1), \ldots, (\alpha_n, \beta_n))$
6	$g^{a_{t-1}, a_t, \kappa}_{\lambda_0, \lambda_{t+1}}$
6	$\left(\left((Q \triangleleft g^{-1}) \alpha(u)^{-1}\right) \triangleleft f^{-1}\right)$
5	$\left(h \triangleright \left(\gamma \beta \left(\left(x \alpha(h)^{-1}\right) \triangleright g^{-1}\right)\right)\right)$

19 (K-theory)

19 (Sz: 2)	
#	Expr
5825	-1
2011	K_0
1481	$2n$
1391	C_0
1294	π_1
1255	K_*
1025	$\widehat{\bigotimes}$
946	S^1
939	ij
933	a_1
917	C^*
867	C^∞
866	T^*
846	K_i
794	K_1

19 (Sz: 3)	
#	Expr
2828	$n-1$
1783	$n+1$
1001	$i+1$
853	$\frac{1}{2}$
771	$i-1$
631	C_r^*
617	$i=1$
532	$k+1$
490	$1/2$
407	$k-1$
372	$p-1$
364	Col
350	$n-2$
316	p, q
287	g^{-1}

19 (Sz: 4)	
#	Expr
286	$-1/2$
242	$N_{E/F}$
199	p^{n-1}
154	$2n-1$
140	$(C_r^*(G))$
137	$b^{1/2}$
124	k_{n-1}
119	$2n+1$
118	ζ_{n-1}
116	ch^{GS}
108	$\lim_{t \to \infty}$
107	$2k+1$
90	$(A, {}_\sigma A)$
89	$KK^{G \ltimes X}$
85	$\dim_{N(G)}$

19 (Sz: 5)	
#	Expr
109	$\sum_{i=1}^{n}$
107	$p/p+1$
97	ch_n^{GS}
81	$i+j-1$
71	$\mathrm{mod} I_K^3(G)$
71	$1+D_t^2$
70	$\sum_{n=0}^{\infty}$
67	$(1+D_0^2)$
66	$(X; N(G))$
63	$(M; E, F)$
61	$\frac{n+m}{n}$
61	$n+m+1$
60	$k, p-1$
60	$(X; A, B)$
60	ch_m^{GS}

19 (Sz: 6)	
#	Expr
57	$'_{k,p-1}$
54	$A_{T^*M,\pi}$
50	$\left(C_0\left(T^*\dot{X}\right)\right)$
45	$\left(C_{R_-,G}(Z)\right)$
39	S_+^{2r-1}
37	$(c_1 \cdots c_j)_*$
36	$\tau_{k,m,n}$
34	$\sum_{1 \leq i \leq n}$
33	$e^{\alpha_1 + \alpha_2}$
30	$(W(End_V))$
29	$\left(R_u\left(X, f\right)\right)$
28	$T_{m,K(t)}$
27	$E_1^{1,-2}$
27	$(1+D^2)^{-1}$
26	$(\sigma-1)^{p-1}$
26	S_q^{2n+1}
26	$\alpha_{p,q,r}$
25	$\bigoplus_{v \in P_U^f}$
25	$T^{1+\frac{1}{r}}$
23	$\psi_{\max\{t,t_j\}}$

19 (Sz: 7)	
#	Expr
71	$n+m-i-j$
59	$\binom{n+m}{n}^{-1}$
58	$t \in [1, \infty)$
48	$(-1)^{n+m+1}$
36	$\frac{i+j-1}{\alpha}$
35	$\frac{1}{\log(1+t)}$
34	$\sum_{\alpha=0}^{i-1}$
34	$k-1, m, n$
28	$a_{i,j}^{n,m}$
27	$\sum_{i=1}^{n-1}$
24	$(1+D_0^2)^{-1}$
23	$a_{j,k}^{m,l}$
22	$(1+D_t^2)^{-1}$
22	$[1-p_{k+1}(x)]$
21	$\left(K^{CRT}(A), K^{CRT}(B)\right)$
21	$n-2, n-2$
21	$M_Y^{p/p+1}$
20	ch_{n+m}^{GS}
18	R_2^{-n-1}

19 (Sz: 8)	
#	Expr
34	$\tau_{k-1,m,n}$
33	$\left(\left\|\widehat{G}(X)\right\|, ch^{GS}\right)$
22	$n-1, p^n-1$
22	$(W \times_k V, m+r)$
20	$C_{n-2,n-2}$
20	$\widehat{\psi}^{s_1 s_2 s_1}$
18	$E_1^{d-1,-d}$
16	$\left(D \bigotimes h_1 \widehat{\bigotimes} h_2\right)$
15	$(1+D^2)^{-p/2}$
15	$[x_i; p_i, q_i]$
15	$e^{-s_0 \sigma(\Omega) u}$
15	$]Y_{\kappa}[_{\widehat{X}}$
14	$M_{(X,Y)}^{p/p+1}$
14	$\left(X, C^{nN} \bigotimes E_0\right)$
14	$\left(C_{W \times R_-, G}(Z)\right)$
14	$e^{2\alpha_1+2\alpha_2}$
13	$\left(C_c^{\infty}(X) \widehat{\bigotimes} K_G\right)$
13	$(1+D_t^2)^{1/q}$
12	$Shv_{Nis}(SmCor(k))$
12	$SH\widetilde{M} \times B \times T$

19 (Sz: 9)	
#	Expr
48	$(h^0 \bigotimes \cdots \bigotimes h^n \bigotimes x)$
37	$\left(b^{1/2} T b^{1/2}\right)$
32	$\frac{d^{N-q}}{(N-q)!}$
21	$n+m-i-j+1$
20	$M_{X-Y}^{p/p+1}$
19	U_{n-1,p^n-1}
19	$\left[a(x)^* a(x)\right]^{1/2}$
18	$\left(\left\|\widehat{G}^{(2)}(X)\right\|, ch^{GS}\right)$
18	$\{\Delta(V_1)/\Delta(V_2)\}$
16	$(h^1 \bigotimes \cdots \bigotimes h^n \bigotimes x)$
15	$(1+D_0^2)^{-1/2}$
14	$(-m+j-1, -j)$
14	$M_{X\|Y}^{p/p+1}$
14	$(C_{n-2,n-2}, 1)$
13	$(W \times_k V, m+r)_Y$
13	$\binom{n+m+l}{n}^{-1}$
13	$(-l+k-1, -k)$
13	$-(1+D_t^2)^{1/q}$
13	$(B/I^n, M/I^n)$
12	$(-n+i-1, -i)$

19 (Sz: 10)	
#	Expr
24	$(Wh(ZG^-)/Wh(ZH))$
21	$n-1, p^{n-1}+1$
16	$\left(b^{1/2} T b^{1/2}\right)^s$
16	$n-1, p^{n-1}-1$
14	$(g)^{(-m+j-1,-j)}$
13	$(h)^{(-l+k-1,-k)}$
13	$e^{-\left(1+D_t^2\right)^{1/q}}$
12	$(f)^{(-n+i-1,-i)}$
12	$-2\pi i(jx+ky)$
11	$(1-e^{-x}; 1-e^y)$
11	$\psi_{\theta^{-1} S(a) \theta^{-2}}$
10	$ch_n^{GS}(f) + d_A \omega$
10	$(D_W^2 + 1 + \lambda^2)^{-1}$
9	$\sum_{g \in G:\, r(g)=x}$
8	$\left(M \times I^k, \partial\left(M \times I^k\right)\right)$
8	$-\left\|1-F_t^2\right\|^{-1/q}$
8	$-i(kX-jY)/s$
7	$(E_{FIN}(G); K^{top})$

19 (Sz: 11to15)	
#	Expr
23	$\frac{n+m-i-j}{n-\alpha}$
19	$U_{n-1,p^{n-1}+1}$
18	$\frac{n+m-i-j}{n-i}$
17	$\frac{n+m-i-j+1}{n-\alpha}$
16	$\sum_{\substack{1 \le i \le n \\ 1 \le j \le m}}$
14	$\frac{n+m-i-j}{n-k}$
14	$[GA_n^c(R), GA_n^c(R)]$
14	$U_{n-1,p^{n-1}-1}$
14	$(A_1 \bigotimes A_2, B_1 \bigotimes B_2)$
12	$\frac{1-x^{-1}}{1-y^{-1}}$

19 (Sz: 16to20)	
#	Expr
7	$a_{j,k}^{m,l} - a_{j+1,k}^{m,l}$
7	$(\Gamma a_0[F,a_1] \cdots [F,a_{p-1}] D^{-1}[\lvert D\rvert, a_p])$
6	$\frac{U_{n-1,1}}{U_{n-1,p^{n-1}-1}}$
5	$b^{-1/2}(p_n T p_n)^{-1} b^{-1/2}$
5	$\sum_{\substack{1\le i\le n \\ 1\le j\le m \\ 1\le k\le l}}$
5	$\left(E\, G \to E_{VCYC}(G); L^{\langle -\infty \rangle}(R?) \right)$
4	$(diag(a,1,a^{-1}), diag(b,b^{-1},1), diag(c,1,c^{-1}))$
4	$b^{-1/2}(p_n T p_n)^{-s} b^{-1/2}$
4	$(U; V_1, \cdots, V_k; \epsilon_1, \cdots, \epsilon_k)$
4	$\left\| e^{-\left(1+D_t^2\right)} - e^{-\left(1+D_t^2\right)^{1/q}} \right\|$

20 (Group theory and generalizations)

20 (Sz: 2)	
#	Expr
44524	-1
7101	x_1
4680	a_1
4363	ij
4245	π_1
3597	x_i
3327	x_2
3322	i_1
3233	$2n$
3026	$2k$
2821	s_1
2672	x_0
2581	a_2
2482	H_1
2478	α_i

20 (Sz: 3)	
#	Expr
6848	$n-1$
5029	$i+1$
3292	$i-1$
3194	$n+1$
2990	$\frac{1}{2}$
2977	$i=1$
2620	$k+1$
2406	i,j
2315	Aut
2136	$k-1$
1755	g^{-1}
1749	$m-1$
1710	x^{-1}
1311	q^{-1}
1302	$j=1$

20 (Sz: 4)	
#	Expr
674	x_1^{-1}
402	x_{i+1}
356	$2k+1$
329	A_{n-1}
321	σ_1^{-1}
290	$2g-2$
281	x_i^{-1}
279	$2n+1$
255	$-1/2$
234	$t_{X \bigcup H}$
224	$2i+1$
219	b_{g-1}
212	$2m-1$
209	$2n-1$
202	$2k-1$

20 (Sz: 5)	
#	Expr
318	$\sum_{i=1}^{n}$
304	$\prod_{i=1}^{n}$
269	r_1, r_2
245	$(G, X \bigcup H)$
235	a_{2g-2}
194	$Aut(F_n)$
186	$(m\|n,d)$
175	$i, i+1$
173	U_q^{fin}
122	$q-q^{-1}$
112	$\prod_{i=1}^{k}$
111	$\sum_{i=1}^{k}$
110	$\sum_{i=1}^{r}$
110	$(x_1,\cdots,x_n)$
106	$U_{d,2}^{F}$

20 (Sz: 6)	
#	Expr
186	$m+4i-4$
182	$N_{Aut(F_n)}$
124	x_{i+1}^{-1}
116	$m+4i-2$
90	$'_{[a],\xi,\eta}$
84	(X_1,X_2,X_3)
78	(X_3,X_2,X_4)
75	y_{i-1}^{-1}
74	A^f, j, k
62	(X_4,X_2,X_1)

20 (Sz: 7)	
#	Expr
186	$(e, e, n+1)$
160	$2g-2,\ 2g-1$
86	ϕ_{m+4i-4}
67	$\sum_{k=0}^{n-1}$
62	ϕ_{m+4i-2}
57	A^f, j, z^*
55	$\sum_{i=1}^{n-1}$
49	$f_s^{r_1,r_2}$
48	$k_1, \cdots, k_m$
48	$q-2q_0+1$

20 (Sz: 8)	
#	Expr
141	$c_{2g-2,\ 2g-1}$
73	$-\alpha-\beta+\gamma+\delta$
54	$\left(y_i x_{i+1}^{-1}\right)$
52	$y_{i-1}x_i^{-1}$
51	$(\log T_+ - i\pi I)$
48	$\xi \in \langle\widetilde{\sigma}\rangle \setminus L$
42	$c_{i+1}^{z_{i+1}}$
40	$\Sigma_{k_1,\cdots,k_m}$
40	$N_{F_{q^4}/F_{q^2}}$
35	$-\frac{1}{2}\sigma_{1+1}$

20 (Sz: 9)	
#	Expr
37	$(x^{-1}b\sigma(x)C_M)$
35	$\left[q^{1/2},q^{-1/2}\right]$
35	$e^{-\frac{1}{2}\sigma_{1+1}}$
34	$\alpha+\beta-\gamma-\delta+1$
33	$(X\times_s\eta^{nr}, Q_l)$
32	$A_{m+4i-4}^{q_0}$
30	$2k_2-2k_1+1$
29	$q^{5a/2+4}-1$
28	$B-bq^{2i-d}I$
28	$2k_1+2k_2-1$

20 (Sz: 10)	
#	Expr
38	$x_{i-1}y_{i-2}^{-1}$
38	$\left(\phi_{m+4i-4}\right)^{-q_0}$
30	$q^{2k_2-2k_1+1}$
28	$q^{2k_1+2k_2-1}$
23	$\frac{i}{\hbar}\log c \bigotimes \log a$
21	$q^{2k_1-2k_2+1}$
21	$e_4^{(a_1+a_2+a_3)}$
20	$\left(q_k^d, \Delta_\tau^d q_k^d\right)$
20	$A_{m+4i}^{-q_4+1}$
20	$(x_1,x_2,\cdots,x_7,m,s,p)$

20 (Sz: 11to15)	
#	Expr
40	$(x-a)^{-\alpha-\beta+\gamma+\delta}$
33	$(a_1+a_2+a_3+a_4)$
33	$e_4^{(a_1+a_2+a_3+a_4)}$
30	$BabcBCBcbaBA$
29	$(BabcBCBcbaBA)^k$
28	$\alpha(h \triangleleft \gamma)x\alpha(h)^{-1}$
24	$a_4+a_7+a_9+a_{10}$
24	$e_1^{(a_4+a_7+a_9+a_{10})}$
23	$e^{\frac{i}{\hbar}\log c \bigotimes \log a}$
22	$c_i^{z_i}c_{i+1}^{z_{i+1}}$

20 (Sz: 16to20)	
#	Expr
15	$\left(\left(\alpha(h \triangleleft \gamma)x\alpha(h)^{-1}\right) \triangleleft g^{-1}\right)$
13	$\left\|\omega_1(x_1^r U^{-3}\left(x_1^{-r}U\right)^s)\right\|$
12	$\left(\dot{x}^{-1}\dot{y}_1\dot{y}_2\dot{v}\dot{x}ut, 1\right)$
12	$(p_1,\cdots,p_d \,\vert\, q_1,\cdots,q_d)$
11	$\left\|\omega_2(U^3x_1^{-r}\left(Ux_1^{-r}\right)^s)\right\|$
11	$\left\|\omega_3(U^3x_1^{-r}(U^{-1}x_1^r)^s)\right\|$
11	$\left\|\omega_2(\left(U^{-1}x_1^{-r}\right)^s U^{-3}x_1^r)\right\|$
10	$(r_2,\ldots,r_k;i_1,\ldots,i_{k-1})$
9	$(a_{2g-3}a_{2g-2}a_{2g-1}b)$
9	$\alpha v_i+\alpha_{i+1}v_{i+1}+\cdots+\alpha_n v_n$

22 (Topological groups, Lie groups)

22 (Sz: 2)	
#	Expr
16403	-1
2269	ij
2235	$2n$
2069	L^2
2041	z_1
1858	x_1
1830	e_1
1824	C^∞
1692	z_2
1553	a_1
1492	x_0
1437	$\widetilde{\lambda}$
1355	e_2
1319	(x,y)
1290	GL

22 (Sz: 3)	
#	Expr
3866	$\frac{1}{2}$
1603	$n-1$
1545	$n+1$
1532	$i=1$
1308	g^{-1}
879	$1/2$
837	$j=1$
739	$i+1$
658	(σ_λ,φ)
645	$k+1$
630	i,j
625	$k-1$
613	p,q
607	$\frac{1}{4}$
554	$i-1$

22 (Sz: 4)	
#	Expr
335	$-1/2$
193	$2n+1$
188	P^{a+1}
182	$\Theta \bigcup \Theta^\perp$
165	a^*_{0C}
160	P^{t-s}
156	$\frac{d}{dt}$
154	a^*_{Pq}
150	z_{n+1}
145	$\sum_{i\in I}$
144	w_2^{-1}
140	$\sum_{\gamma\in\Gamma}$
136	a^*_{Qq}
131	$\lim_{n\to\infty}$
128	$S_{\natural,1}$

22 (Sz: 5)	
#	Expr
415	$(X:\tau)$
316	$\sum_{i=1}^{n}$
174	$\sum_{j=1}^{n}$
153	$\frac{\partial}{\partial z_1}$
148	a^*_{QqC}
134	$\frac{\partial}{\partial z_2}$
131	$\frac{\partial}{\partial z_0}$
126	$\sum_{k=1}^{n}$
121	$F\left[U(g)\right]$
120	$(K:\xi)$
115	$\frac{n+1}{2}$
114	$\sum_{n=1}^{\infty}$
109	$\frac{p+q}{2}$
107	$\epsilon(R(\Theta))$
97	$i,j=1$

22 (Sz: 6)	
#	Expr
89	F,λ_{n-p}
63	$\frac{d\widetilde{H}}{dr}$
54	$(p_0 B_0 p_0)$
52	$\widetilde{r}_{P\,\vert P}$
46	$(2n+1,F)$
44	$(p-1)\alpha-\rho$
44	$-m+\frac{1}{2}$
43	$Q,*,ds$
40	$\left(e^{-tJ}-I\right)$
38	$\left\|\phi(x)-x\right\|_2$

22 (Sz: 7)	
#	Expr
160	$(Y,E(\pi \bigotimes \varphi))$
104	$p-1,q-1$
97	(MG_1,MG_2)
64	$(\partial X,V(\sigma_\lambda))$
57	$(\Lambda,V^+(\sigma_\lambda,\varphi))$
44	$\nu^{-m+\frac{1}{2}}$
35	$\left(\Lambda,V^k(\sigma_\lambda,\varphi)\right)$
35	$\alpha_1,\ldots,\alpha_t$
34	$\Psi^*_{\frac{n-2}{2}}$
31	$\nu^{-m-\frac{1}{2}}$

22 (Sz: 8)	
#	Expr
91	$(\partial X,V(\sigma_\lambda,\varphi))$
76	$\mathbb{R}^{p-1,q-1}$
48	$(\partial X,V^+(\sigma_\lambda,\varphi))$
41	$X^\wedge_{Q,*,ds}$
40	$\tau^*=(-)^{-1}$
39	$A_1A_2B_1B_2$
30	$\left(\partial X,V^k(\sigma_\lambda,\varphi)\right)$
28	$B^{out(r)}_{q-1}$
28	$\omega_i,u^{-1}\omega_i$
26	$p_{2n_1+2n_2}$

22 (Sz: 9)	
#	Expr
48	$\lambda(h),\lambda(g),v$
40	$(Q:\xi:\nu)$
37	$\Box_{\mathbb{R}^{p-1,q-1}}$
28	$\Delta_{\omega_i,u^{-1}\omega_i}$
28	$(P:\nu:x)$
25	(p_*E^r,p_*E^s)
24	$(\nu:x:y)$
21	$\left[q^{1/2},q^{-1/2}\right]$
20	$(K:\xi:\tau)$
17	$e^{-\frac{s\vert Y\vert^2}{2\hbar_0}}$

22 (Sz: 10)	
#	Expr
88	$\sigma^{n-p}_{F,\lambda_{n-p}}$
41	$\sigma^{n-p}_{(p-1)\alpha-\rho}$
28	$(M'G_1,M'G'_2)$
22	$(M^0G_1,M^0G^0_2)$
19	$\sum_{i=n+1}^{2n+1}$
16	$\int_{ia^*_L/ia^*_G}$
16	$\left(U\bigcap w_2^{-1}U^\Theta w_2\right)$
15	$C_{2,\bar{e}_i,\bar{e}_j}$
15	$(p'+q,q'+p;\ 2n)$
14	$(A^*_F(Y,E(\pi \bigotimes \varphi)))$

22 (Sz: 11to15)	
#	Expr
80	$\left(\sigma^{n-p}_{F,\lambda_{n-p}},\varphi\right)$
33	$\left(\bigoplus_{\Lambda\in P^+} L(\Lambda)\right)$
29	$\left(\sigma^{n-p}_{(p-1)\alpha-\rho},\varphi\right)$
26	$\left(\Gamma, C^{-\omega}\left(\Lambda, V^k(\sigma_\lambda,\varphi)\right)\right)$
24	$(2n_1; p, q; 2n_2)$
20	$(\Gamma, C^{-\omega}(\Lambda, V^+(\sigma_\lambda,\varphi)))$
18	$\left(\Lambda, V^+\left(\sigma^{n-p}_{F,\lambda_{n-p}},\varphi\right)\right)$
17	$d^{Mp_{2n_2}(R)}_{MP_{n_2-n_1}}$
17	$e^1\wedge e^2 - e^3\wedge e^4$
15	$\frac{\alpha_2^2-\xi^2}{\beta_2^2-\beta_1^2}$

22 (Sz: 16to20)	
#	Expr
15	$\left(\partial X, V^+\left(\sigma^{n-p}_{F,\lambda_{n-p}},\varphi\right)\right)$
12	$\frac{\left(\frac{3}{2}-s\right)\left(\frac{1}{2}-s\right)}{s(s-1)(2-s)}$
11	$\left(s+n, n+\frac{3}{2}; s+\frac{1}{2}; l^2\right)$
11	$\left[\nu^{-m+\frac{1}{2}}\rho, \nu^{-m+\frac{3}{2}}\rho\right]$
11	$\left(n-s+2, n+\frac{1}{2}; \frac{3}{2}-s; l^2\right)$
9	$\left(1-s, \frac{1}{2}; \frac{3}{2}-s; \lambda^2\right)$
9	$\left(\left(R_{\alpha(\xi)\vartheta(h)^{-1}\alpha(\xi')^{-1}}\varphi\right)|_N\right)$
9	$\frac{\left(s-\frac{1}{2}\right)\left(s-\frac{3}{2}\right)}{s(s-1)}$
9	$r_1,\ldots,r_{l-1},k,r_{l+1}$
9	$(f(a_1\cdots\widehat{a}_i\cdots\widehat{a}_j\cdots a_{q+1}, a_j))$

26 (Real functions)

26 (Sz: 2)	
#	Expr
2032	x_i
1643	-1
1310	e_i
1205	y_i
1141	dx
1081	dt
1005	x_1
1004	$\int_{\Omega}$
815	p_i
732	$[a,b]$
687	α_i
685	a_i
656	f'
647	x_k
642	z_i

26 (Sz: 3)	
#	Expr
3608	$i=1$
2498	$\frac{1}{2}$
1181	$n-1$
1116	$\int_a^b$
1109	$j=1$
1043	$k=1$
1019	$i \in F$
745	$[a,b]$
744	$\frac{1}{4}$
561	$n+1$
539	$i+1$
520	$\frac{1}{p}$
512	$\frac{1}{q}$
443	$i-1$
429	$b-a$

26 (Sz: 4)	
#	Expr
949	$\sum_{i \in F}$
357	$\langle x, e_i \rangle$
272	(x, y_i)
213	x_{i+1}
140	$g(s)$
140	$\lim_{m \to \infty}$
135	$-1/2$
105	$\lim_{n \to \infty}$
103	$_{\gamma,I}$
102	U_{fin}
96	S_{fin}
87	(x, e_i)
83	$\int_{-\infty}^{\infty}$
82	$(b-a)^2$
72	$\lvert\langle x,e\rangle\rvert^2$

26 (Sz: 5)	
#	Expr
2583	$\sum_{i=1}^{n}$
574	$\sum_{j=1}^{n}$
508	$\sum_{k=1}^{n}$
364	$\{1, \cdots, n\}$
362	$1 \leq i \leq n$
328	$\sum_{i=1}^{\infty}$
325	$\frac{a+b}{2}$
280	$_{1 \leq i \leq n}$
278	(z_i, z_j)
239	(y_i, y_j)
207	x_{i-1}^{m}
207	$\frac{1}{b-a}$
183	$i, j = 1$
149	$\lvert\Phi_i - \phi_i\rvert$
137	$\sum_{k=1}^{m}$

26 (Sz: 6)	
#	Expr
149	$\lvert\Phi_i - \phi_i\rvert^2$
78	$\lvert\Gamma_i - \gamma_i\rvert^2$
67	$\left\lVert \nabla^m u \right\rVert_{L^p(Q)}$
57	$\frac{3a+b}{4}$
48	$\frac{a+3b}{4}$
47	$\sum_{i \in I_1(m)}$
44	$(q+1)^{\frac{1}{q}}$
40	$\left(\sqrt{M} - \sqrt{m}\right)^2$
40	$(M_i - m_i)^2$
37	$\max_{1 \leq i \leq n}$

26 (Sz: 7)	
#	Expr
240	$\sum_{i=1}^{n-1}$
180	$\sum_{i,j=1}^{n}$
161	$1 \leq i \neq j \leq n$
133	$_{1 \leq i \neq j \leq n}$
131	$\sum_{k=1}^{n-1}$
88	$\frac{q(x)}{p(x)}$
86	$\left\lVert \sum_{i=1}^{n} x_i \right\rVert_{n-1}$
76	$\sum_{j=1}^{n-1}$
73	$\sum_{i=0}^{n-1}$
69	$(t, x; \tau, \xi)$

26 (Sz: 8)	
#	Expr
84	$\left\lVert \int_a^b f(t)dt \right\rVert$
38	$\left(\int_a^b \lVert f(t) \rVert dt \right)$
31	$\Pi_{m-1,k,p}$
25	$\sum_{1 \leq i \neq j \leq n}$
23	$\left(\sum_{i=1}^{n} \lVert x_i \rVert \right)^2$
23	$\left\lVert \sum_{i=1}^{n} x_i \right\rVert^2$
23	$)_{\lvert s \rvert = j \pmod l}$
22	$\left(\sum_{i=1}^{\infty} \lvert\lambda_i\rvert^2 \right)$
21	$\frac{(M-m)^2}{M+m}$
21	$\varphi(Y) - \varphi\left(\widetilde{Y}\right)$

26 (Sz: 9)	
#	Expr
56	$\left\lVert \sum_{i=1}^{n} \alpha_i z_i \right\rVert$
39	$\sum_{j=i+1}^{n-1}$
29	$m-1, m-1, p$
27	$k = 1, \cdots, n-1$
27	$_{k=1,\cdots,n-1}$
26	$\frac{x_i + x_{i+1}}{2}$
25	$(t - \lambda, x - y; y)$
23	$\langle \Gamma e - y, y - \gamma e \rangle$
22	$\lVert \Pi_{m-1,k,p} u \rVert$
21	$\langle \Phi e - x, x - \phi e \rangle$

26 (Sz: 10)	
#	Expr
90	$\sum_{j=1}^{n} \lvert(z_i, z_j)\rvert$
80	$\sum_{j=1}^{n} \lvert(y_i, y_j)\rvert$
65	$\sum_{i \in F} \lvert\Phi_i - \phi_i\rvert^2$
52	$\left\lVert \sum_{i=1}^{n} \alpha_i z_i \right\rVert^2$
51	$\lvert\langle x,y\rangle - \langle x,e\rangle\langle e,y\rangle\rvert$
35	$\left(\sum_{i \in F} \lvert\Gamma_i - \gamma_i\rvert^2\right)$
28	$\Pi_{m-1,m-1,p}$
26	$\{-\sigma\rho(t, x; 0, \xi)\}$
21	$\left\langle \int_a^b f(t)dt, e \right\rangle$
21	$\sum_{i=1}^{\infty} \lvert\langle x, e_i\rangle\rvert^2$

26 (Sz: 11to15)	
#	Expr
65	$\left(\sum_{i\in F}\left\|\Phi_i-\phi_i\right\|^2\right)^{\frac{1}{2}}$
38	$\left\|\sum_{i=1}^{n}c_i(x,y_i)\right\|^2$
38	$\left\|\sum_{i=1}^{n}c_i(x,y_i)\right\|$
35	$\left(\sum_{i\in F}\left\|\Gamma_i-\gamma_i\right\|^2\right)^{\frac{1}{2}}$
26	$\sum_{i,j=1}^{n}\left\|(y_i,y_j)\right\|$
23	$\frac{x-\frac{a+b}{2}}{b-a}$
22	$\sum_{k=1}^{n-1}\left\|\Delta x_k\right\|^p$
21	$\left(\sum_{i=1}^{\infty}\left\|\langle x,e_i\rangle\right\|^2\right)^{\frac{1}{2}}$
20	$\sum_{i,j=1}^{n}\left\|(z_i,z_j)\right\|$
20	$\left\|\left\|y_i-\sum_{j=1}^{n}p_jy_j\right\|\right\|$

26 (Sz: 16to20)	
#	Expr
27	$\left\langle\sum_{i=1}^{n}p_ix_i,\sum_{i=1}^{n}p_iy_i\right\rangle$
24	$\left\|f(x)-\frac{1}{b-a}\int_a^b f(t)dt\right\|$
24	$\left[\langle x,y\rangle-\sum_{i\in F}\langle x,e_i\rangle\langle e_i,y\rangle\right]$
21	$\left(x_i,P_ib+\bar{P}_ia,x_{i+1}\right)$
20	$\left\|\langle x,y\rangle-\sum_{i\in F}\langle x,e_i\rangle\langle e_i,y\rangle\right\|$
16	$\sum_{i=1}^{n}\left(\sum_{j=1}^{n}\left\|(z_i,z_j)\right\|\right)^{\beta}$
14	$-\sigma t^{-\frac{\alpha}{2-\alpha}}\left\|x-\xi\right\|^{\frac{2}{2-\alpha}}$
14	$\sum_{i=1}^{n}\left(\sum_{j=1}^{n}\left\|(z_i,z_j)\right\|\right)^{\delta}$
14	$\left\|\int_\Omega\rho(s)f(s)g(s)\,d\mu(s)\right\|$
12	$\sum_{i=1}^{n}\left(\sum_{j=1}^{n}\left\|(y_i,y_j)\right\|\right)^{\delta}$

28 (Measure and integration)

28 (Sz: 2)	
#	Expr
2882	-1
1071	x_1
608	x_n
598	x_2
576	x_0
518	(x,y)
473	[0,1]
430	z_n
362	t_1
318	a_n
317	z_1
313	$-n$
312	$2n$
312	i_1
310	a_1

28 (Sz: 3)	
#	Expr
917	$n-1$
619	$n+1$
611	$\frac{1}{2}$
607	$i=1$
370	$k-1$
363	$k+1$
358	$n \to \infty$
332	$j=1$
283	$k=1$
201	i,j
198	$k \to \infty$
190	$\frac{1}{n}$
180	$n=1$
174	$1/2$
174	$k=0$

28 (Sz: 4)	
#	Expr
186	$\lim_{n\to\infty}$
101	$\lim_{k\to\infty}$
93	$-1/2$
80	x_{k-1}
73	x_{n-1}
68	n_k-1
68	$\limsup_{n\to\infty}$
67	M_k^{sa}
62	$\limsup_{\epsilon\to 0}$
61	$r_{i,j}$
56	$\delta^{1/2}$
55	$2n+1$
51	$\liminf_{n\to\infty}$
51	x_{k+1}
47	$D(x,\epsilon)$

28 (Sz: 5)	
#	Expr
131	$(z_1,\ldots,z_n)$
119	$\sum_{i=1}^{n}$
58	q_{n_k-1}
55	$\sum_{j=1}^{n}$
55	$\sum_{n=1}^{\infty}$
55	$2+\xi-s$
44	$\sum_{k=1}^{n}$
44	$\log 1/\lambda$
43	$s-1-\xi$
40	$M_k^{sa}(C)$
38	$\sum_{n=0}^{\infty}$
37	$\sum_{i=1}^{N}$
37	$\sum_{0}^{n-1}$
36	$\sum_{k=1}^{\infty}$
36	$\lvert x_0-x_1\rvert$

28 (Sz: 6)	
#	Expr
32	$2^{-2^{k+3}}$
26	$\frac{g(t,h)}{h}$
24	(K^*,Σ^*,F^*)
18	$\left(G^{(0)}, r(C)\right)$
17	$(t_i-t_j)^2$
17	$\{-1,0,1\}$
16	$\left(\log\frac{1}{\epsilon}\right)^4$
16	-2^{2k+7}
16	$1+\frac{1}{c_k}$
15	$\frac{N_n(f)(x)}{n}$

28 (Sz: 7)	
#	Expr
54	$\sum_{k=0}^{n-1}$
52	$(x_1,x_2,\ldots,x_n)$
37	$\bar{\theta}$, $\bar{\theta}'$
29	$(r_\nu\colon \nu \in pos(t))$
19	$i_1 \ldots i_{p-1}$
17	$\sum_{j=0}^{n-1}$
16	$2^{-2^{2k+7}}$
16	$\frac{r\sqrt{3}}{k+1}$
15	$\frac{1}{s-1-\xi}$

28 (Sz: 8)	
#	Expr
35	$I_{\bar{\theta},\bar{\theta}'}$
25	$u_{x_1x_2\ldots x_n}$
16	$\epsilon^2\left(\log\frac{1}{\epsilon}\right)^4$
13	$(r_{j_1}\ldots r_{j_k})^t$
12	$(a_1,\cdots,a_n)$
12	$\sup_{s\in R_+^{1+p}}$
12	$\delta^{CC_{11}{}^{-1}c_0}$
10	$\frac{\mu(IK)}{\mu(I)}$
10	$\left(x',\epsilon'_{k,j}\right)$
10	r_1,r_2,r_3

28 (Sz: 9)	
#	Expr
23	$x_1x_2\ldots x_{k-1}$
14	$f(t+h)-f(t)$
14	$u_{x_1x_2\ldots x_n}(\lambda)$
13	$Q_4^{mt}(K^*,\Sigma^*,F^*)$
12	$\frac{1+\xi}{2+\xi-s}$
12	$1+2^{-2^{2k+7}}$
12	$\frac{s-d}{s-1-\xi}$
11	$((t,s-1),U\to Y)$
11	$\frac{s+\xi}{2+\xi-s}$
10	$\nu^{n-1}(\nu+1)-2$

28 (Sz: 10)	
#	Expr
22	$u_{x_1x_2\ldots x_{k-1}}$
12	$(g\circ f, g\circ f^2,\cdots)$
11	$\left(1+\frac{1}{c_k}\right)^{j(k)}$
9	$(R_T,S_T\,\vert\,C_T)$
9	$(\lambda\mu r, B_X(y,\lambda r))$
9	$\left(D\left(x',\epsilon'_{k,j}\right)\right)$
8	$\left(\vec{x}^1,\vec{x}^2,\ldots,\vec{x}^k\right)$
8	$\left(u,\alpha_0\psi^{-1/2}\rho\right)$
7	$\frac{1}{2}\frac{1}{s-1-\xi}$
7	$\frac{1}{2}\left(\frac{1}{s-1-\xi}\right)$

28 (Sz: 11to15)	
#	Expr
26	$(z_1, \ldots, z_n; m, k, \gamma)$
16	$(z_1, \ldots, z_n; m, \gamma)$
16	$\Gamma_R(z_1, \ldots, z_n; m, k, \gamma)$
14	$I_{\bar{\theta},\bar{\theta}'}(D(x,\epsilon))$
13	$\sum_{x_{k+1}\ldots x_n \in G_{n-k}}$
13	$x_{k+1} \ldots x_n \in G_{n-k}$
13	$\frac{f(t+h)-f(t)}{h}$
12	$u_{x_1 x_2 \ldots x_{k-1}}(\lambda)$
11	$(n; x_1 x_2 \ldots x_{k-1}; \lambda)$
10	$\frac{\nu^{n-1}(\nu+1)-2}{\nu-1}$

28 (Sz: 16to20)	
#	Expr
8	$\xi_1^2\eta_0^2 + \xi_0^2\eta_1^2 - \xi_0^2\eta_0^2$
7	$\frac{\omega(I_1 {I_2}' J)}{\omega(I_1 {I_2}')}$
6	$\frac{\sum_1^n \log p_k}{\sum_1^n \log 1/\lambda_k}$
5	$\frac{\log\left(\frac{\mu(B(x,r))}{\mu(B(x,\lambda r))}\right)}{\log 1/\lambda}$
5	$\frac{S_{n_k}(f)}{\sigma(f)\sqrt{n_k}} \in [-\rho_k, \rho_k]$
4	$z_n\sqrt{n} - \left(1 - \frac{1}{n}N^n_{u\to v}\right)S_n(u)$
4	$\frac{3\beta^2+2\beta-2}{\beta^2+3\beta-2}$
4	$(t_{k-1}, x_{k-1}, t_k, dx_k)$
4	$((b_{ik}, R(i)) - \{r_j : 1 \le j \le s\})$
4	$x_{k+1} \ldots x_{n-1} \in G_{n-k-1}$

30 (Functions of a complex variable)

30 (Sz: 2)	
#	Expr
6825	-1
1181	π_1
1154	z_0
1146	x_1
1068	z_1
987	x_0
956	$\bar{z}$
910	dt
830	(z,w)
792	a_1
761	x^2
743	x_n
731	z_k
730	S^1
723	f_n

30 (Sz: 3)	
#	Expr
2370	$n-1$
2189	$\frac{1}{2}$
1391	$n+1$
835	$j=1$
825	$k=1$
667	$k-1$
665	$i=1$
614	$1/2$
586	$k+1$
524	$e^{i\theta}$
509	$1-\beta$
484	$k=0$
458	$n-2$
421	$n=1$
419	$m-1$

30 (Sz: 4)	
#	Expr
253	$\lim_{n\to\infty}$
215	$1-\left\|z\right\|^2$
190	$\frac{1}{2\pi}$
182	$-1,1$
180	$-1/2$
154	x_{n-1}
136	$(1-\beta)^2$
126	$\int_0^{2\pi}$
120	$\int_{-\infty}^{\infty}$
118	$[-1,1]$
117	$M_{m,n}$
107	$\frac{1}{\sqrt{2}}$
92	$\frac{\sqrt{3}}{2}$
90	$u-u_0$
85	$\sum_{n>1}$

30 (Sz: 5)	
#	Expr
244	$\frac{1}{2\pi i}$
180	$\sum_{n=1}^{\infty}$
176	$\sum_{k=0}^{\infty}$
148	$\sum_{j=1}^{n}$
147	$\sum_{k=1}^{\infty}$
146	$\sum_{n=0}^{\infty}$
132	$\}_{n=1}^{\infty}$
123	$\Omega^{-1,1}$
108	$\sum_{i=1}^{n}$
106	x_k, y_k
104	$(R \bigcup \{x\}, x)$
84	$\left(1-\left\|z\right\|^2\right)^2$
76	x_0, y_0
75	$\sum_{j=0}^{\infty}$
73	$\prod_{k=1}^{m}$

30 (Sz: 6)	
#	Expr
56	(0,0,0,0,w_0)
45	$ijk\alpha\beta\gamma$
41	Z_{x_k,y_k}
40	$(\Delta_0;\alpha,\beta)$
36	$N(1/z\,)$
34	$(1-\beta)^{\alpha+1}$
34	$(r^\epsilon x', 0)$
33	$\frac{\alpha+\gamma}{\sqrt{2}}$
31	$C^{k-1,1}$
30	$(1-\beta)^{5/2}$

30 (Sz: 7)	
#	Expr
48	$k=1, k\neq j$
37	$\sum_{k=1}^{n/2}$
36	$(r,\theta;\rho,\psi)$
35	$\sum_{k=0}^{n-1}$
35	$\sum_{p=0}^{n-1}$
33	$s_1,\ldots,s_k$
32	$\sum_{j=1}^{n-1}$
30	$(i=1,\cdots,g)$
30	$\prod_{j=1}^{n-1}$
30	$\int_{Z_{x_k,y_k}}$

30 (Sz: 8)	
#	Expr
20	$(0,1;H^1(\omega^a))$
20	$\frac{y_1+t_1}{\sqrt{2}}$
20	$\sum_{m=1}^{2^n-1}$
18	$wJ+xK+yL$
18	$\frac{\partial^2}{\partial\epsilon\partial\bar{\epsilon}}$
16	$\beta-\frac{\alpha+\gamma}{\sqrt{2}}$
16	$\beta+\frac{\alpha+\gamma}{\sqrt{2}}$
15	$\left(D(v),u^{(v)},y\right)$
15	$a(z)+a(z)^{-1}$
14	$\frac{y_1-t_1}{\sqrt{2}}$

30 (Sz: 9)	
#	Expr
34	$(D^*,\rho(z)d^2z)$
31	$\sum_{k=1}^{n/2-1}$
31	$\sum_{k=1}^{(n-1)/2}$
30	$(i=g+1,\cdots,n)$
24	$\prod_{k=1,k\neq j}^{m}$
17	$\left(\omega^b;H^1(-1,0)\right)$
17	$kp-n[kp/n]$
15	$\frac{n(x)}{x_n^{n-2}}$
14	$e^{-\left(\lambda+\frac{1}{4}\right)\pi i}$
13	$(1+D_1+D_2/n)$

30 (Sz: 10)	
#	Expr
17	$h_{kp-n[kp/n]}$
16	$\frac{f(u)du}{u-u_0}$
14	$1,\cdots,1$
14	$\frac{a(z)+a(z)^{-1}}{2}^{2g-2}$
13	$(ax+b)(cx+d)^{-1}$
13	$x+\alpha y+\beta z+\gamma t$
12	$-\frac{1}{2}\lambda_\nu\pi i\sigma_3$
11	$\{\bar{i}_1^1,\cdots,\bar{i}_1^{n_1}\}$
11	$1-\frac{1}{2\beta}-\frac{r}{\beta}$
11	$\{\bar{i}_m^1,\cdots,\bar{i}_m^{n_m}\}$

30 (Sz: 11to15)	
#	Expr
30	$e_k v_k + \widetilde{e}_k \widetilde{v}_k$
16	$(w, z; z_1, \ldots, z_m)$
14	$(w - z_s)^{(n+1)m_s}$
13	$\frac{H_1^{(p)}(\alpha\lvert\zeta - z\rvert)}{\lvert\zeta - z\rvert}$
13	$e_k A_{lk} + \widetilde{e}_k \widetilde{A}_{lk}$
12	$e^{-\frac{1}{2}\lambda_\nu \pi i \sigma_3}$
11	$\left\lvert \frac{1}{N}\nu_N(\theta,\phi) - \frac{\phi-\theta}{2\pi} \right\rvert$
11	$\alpha^2 + \frac{1}{2}k - \frac{1}{4}$
10	$C_{\bar{I}\bar{k}-\bar{k}}^{\bar{k}-2}$
10	$1 + \cos\frac{2k-1}{2n}\pi$

30 (Sz: 16to20)	
#	Expr
13	$x_1 y_2 + y_1 x_2 + z_1 t_2 + t_1 z_2$
13	$x_1 t_2 + t_1 x_2 + z_1 y_2 + y_1 z_2$
9	$\vartheta(S(e_n, P_k))\vartheta(S(g_n, P_k))$
9	$x^2 + y^2 + z^2 - xy - xz - yz$
8	$e^{\frac{1}{2}(s-x)^2 - \frac{1}{2}(t-y)^2}$
8	$(x_1 y_2 + y_1 x_2 - z_1 t_2 - t_1 z_2)$
8	$\frac{W^n_{k,\epsilon,12}(r',\theta')}{z'-z}$
8	$x_1 z_2 + z_1 x_2 + y_1 t_2 + t_1 y_2$
7	$(s_1 - n_1 - l_1 + 1)!(l_1 - 1)!$
7	$\{e_k(v_k - v_{kp}) + \widetilde{e}_k(\widetilde{v}_k - \widetilde{v}_{kp})\}$

31 (Potential theory)

31 (Sz: 2)	
#	Expr
1110	-1
834	x_0
659	dx
479	R^n
436	L^2
393	R^2
379	x_1
335	(x,y)
308	ij
289	L^p
284	x_j
263	u_h
260	x_2
246	Ω_h
236	$\sqrt{2}$

31 (Sz: 3)	
#	Expr
698	$\frac{1}{2}$
271	$n-1$
259	$1,p$
160	$i=1$
155	$\lvert x-y\rvert$
155	$j=1$
140	$k=1$
136	$(x;y)$
126	$1-\Delta$
121	C_0^∞
121	$e^{i\theta}$
115	$n\to\infty$
109	$h^{\alpha\beta}$
105	g_{ij}
103	$n=1$

31 (Sz: 4)	
#	Expr
130	$W^{1,p}$
102	$B_\delta(x_0)$
101	$L^{1,p}$
83	$p'-1$
78	$(B_\delta(x_0))$
77	$L^2(R^n)$
72	$\lim_{n\to\infty}$
68	(x_j,X_j)
65	$-\frac{1}{2}$
64	(R^2,R^2)
63	$\sum_{Q\in D}$
62	$\frac{1}{\sqrt{2}}$
61	$\int_{\Omega\setminus K}$
58	$(B(x,r))$
56	$W^{1,q}$

31 (Sz: 5)	
#	Expr
118	$(1-\Delta)^{-1}$
104	$H^{\frac{1}{2}}_{00}$
83	$\int_{B_\delta(x_0)}$
55	$2+\xi-s$
43	$(x,\nabla u_h)$
43	$s-1-\xi$
40	(z',w')
39	$\sum_{j=1}^{n}$
39	$\frac{2}{1+\beta}$
37	$\}_{n=1}^{\infty}$
35	$\sum_{i=1}^{n}$
33	$1\le i\le n$
32	$\epsilon\to 0+0$
32	$\sum_{k=1}^{\infty}$
32	$\delta,\epsilon,0$

31 (Sz: 6)	
#	Expr
50	$n-\alpha+2d$
31	$\sup_{1\le i\le n}$
28	$\frac{\partial u}{\partial x_j}$
27	$W^D_{K,\sigma}$
24	$\sup_{x_0\in R^n}$
24	$\lim_{\epsilon\to 0+0}$
24	$\frac{dx^i}{dt}$
22	$\frac{dx^j}{dt}$
20	$[(\iota-\hat{F}_Y)P_\phi]$
19	$e^{-2\Phi/h}$

31 (Sz: 7)	
#	Expr
39	$\lvert y\rvert^{n-\alpha+2d}$
37	$A_z^\beta\ni x\to z$
36	$(r,\theta;\rho,\psi)$
27	$\lvert\langle Qu,\,u\rangle\rvert$
25	$\left(M\left(\widehat{A}\right),P_\phi\right)$
21	$(S_R\Theta_y U+T)$
18	$\lVert\nabla u\rVert^2_{L^2(R^n)}$
18	$\Omega_h^{\delta,\epsilon,0}$
15	$\frac{1}{s-1-\xi}$
15	$\frac{\varphi"(z)}{\varphi'(z)}$

31 (Sz: 8)	
#	Expr
37	$\lim_{A_z^\beta\ni x\to z}$
15	$L^\infty(\Gamma_{2,2r_0})$
13	$\frac{\lambda_{Q'}}{\sigma(Q')}$
13	$\delta^{n-(n-2)2\tau}$
12	$\frac{\partial^2\varphi}{\partial x_j^2}$
12	$V^\infty_{n_{ef}(r)+1}$
11	$j_1,\cdots,j_q$
10	$\frac{d^2x^i}{dt^2}$
10	$(x,\nabla u_h 1_{\Omega_h})$
10	$W^{D_z}_{\widetilde{K},\sigma}$

31 (Sz: 9)	
#	Expr
27	$\frac{1}{\lvert y\rvert^{n-\alpha+2d}}$
15	$\frac{q(p-1)}{p-q}$
14	$\frac{4}{1+\beta}+n-2$
14	$\left(b',0,(t-\tau)_+\right)$
14	$\frac{\mu(B(x,r))}{r^\alpha}$
13	$(A\setminus K,\partial_D A\setminus K)$
12	$\frac{1+\xi}{2+\xi-s}$
12	$W^{1,q}_{K\bigcup\partial_N\Omega}$
12	$\frac{s-d}{s-1-\xi}$
11	$\frac{s+\xi}{2+\xi-s}$

31 (Sz: 10)	
#	Expr
14	$\delta^{\frac{4}{1+\beta}+n-2}$
11	$\frac{2}{3}(n-\alpha),\frac{3}{2}$
11	$\frac{y_l}{\lvert y\rvert^{n-\alpha+2d}}$
10	$\partial z_{i_1}\cdots\partial z_{i_{k_2}}$
9	$\delta^{\frac{2}{1+\beta}+n-2}$
9	$e^{-2\Phi/h}L(dx)$
8	$L^{\frac{q(p-1)}{p-q}}$
8	$\left(u,\alpha_0\psi^{-1/2}\rho\right)$
8	$\frac{l}{k_1,k_2,k_3}$
7	$\frac{1}{2}\frac{1}{s-1-\xi}$

31 (Sz: 11to15)	
#	Expr
23	$(a_1, \cdots, a_n : b_1, \cdots, b_m)$
13	$\frac{2}{1+\beta} + \frac{n-2}{2}$
10	$1 + \cos \frac{2k-1}{2n} \pi$
10	$\frac{1}{\sigma(Q)} \sum_{Q' \subset Q} \lambda_{Q'}$
9	$\frac{\omega(I_1 I_2 J)}{\omega(I_1 I_2)}$
9	$\sum_{Q \in D} \frac{\lambda_Q}{\sigma(Q)} \chi_Q(x)$
9	$\delta^{\frac{2}{1+\beta} + \frac{n-2}{2}}$
8	$(\alpha + 2\beta + 2n + 4)_{k-n}$
7	$\frac{2s-1-d}{s-1-\xi}$
7	$\frac{u(X_t^z)}{h(X_t^z)}$

31 (Sz: 16to20)	
#	Expr
7	$\left(\frac{1}{\sigma(Q)} \sum_{Q' \subset Q} \lambda_{Q'} \right)^{s-1}$
7	$\frac{\omega(I_1 I_2' J)}{\omega(I_1 I_2')}$
6	$\left\{ D'_{\Lambda^q E} D"_{\Lambda^q E} \tau_a,\ \tau_a \right\}$
5	$\left\{ \tau_a,\ D"_{\Lambda^q E} D'_{\Lambda^q E} \tau_a \right\}$
5	$\left\{ D"_{\Lambda^q E} \tau_a,\ D"_{\Lambda^q E} \tau_a \right\}$
5	$\Delta^{k+1-d} g * \frac{1}{\lvert y \rvert^{n-\alpha+2d}}$
5	$\left(\int\limits_{B(x,r)} k\left(r\right)(y)\, d\mu(y) \right)^{p'-1}$
4	$\frac{1}{2} h^{\alpha\beta} g_{ij} x_\alpha^i x_\beta^j - f$
4	$(j_0 + 1)! \cdots (j_n + 1)!\ [\varphi'(w)]^n$
4	$\left(\sum_{Q' \subset Q} \frac{\lambda_{Q'}}{\sigma(Q')} \chi_{Q'}(x) \right)^{s-1}$

32 (Several complex variables and analytic spaces)

32 (Sz: 2)	
#	Expr
17895	-1
4486	x_1
4085	z_1
3206	$2n$
3031	ij
2568	x_2
2400	π_1
2364	H^0
2321	x_0
2288	z_0
2279	f_1
2139	λ_0
2079	p_1
2076	∂
2070	z_2

32 (Sz: 3)	
#	Expr
4068	$n-1$
3309	$\frac{1}{2}$
2628	$i=1$
2488	$n+1$
2382	$k+1$
2363	$j=1$
1601	$k-1$
1338	$i+1$
1241	$1,0$
1239	p,q
1176	$0,1$
1136	$k=1$
1103	f^{-1}
1089	$j+1$
1088	$1mu$

32 (Sz: 4)	
#	Expr
340	$2n-1$
339	(z_1,z_2)
309	(λ_0,ϵ_0)
282	$[t_0,c_0]$
267	$2g-2$
263	$2n+1$
214	C^{n+1}
208	$\frac{d}{dt}$
201	x_{n-1}
200	$-\log D$
200	$\lim_{n\to\infty}$
195	$-1,1$
193	$\psi_{t,u}$
189	$\prod_{i\in I}$
167	$\widetilde{\sigma}^{-1}$

32 (Sz: 5)	
#	Expr
309	$\sum_{j=1}^{n}$
294	$\sum_{i=1}^{n}$
241	$(z, f(z))$
192	$\sum_{k=0}^{\infty}$
173	$\sum_{j=1}^{r}$
162	$\frac{1}{2\pi i}$
151	$\sum_{i=1}^{r}$
144	$\sum_{k=1}^{n}$
129	$\sum_{i=1}^{k}$
124	$\sum_{n=1}^{\infty}$
123	$\Omega^{-1,1}$
116	$S^1 \times S^2$
115	$\sum_{j=1}^{m}$
112	$\sum_{k=1}^{N}$
111	c, x, v

32 (Sz: 6)	
#	Expr
66	$\sum_{\beta,\mu,\rho}$
64	$\bar{p}, X, G$
62	(x_1,x_2,x_3)
59	$\Pi^{n_N \times n_N}$
59	$\Pi^{n_1 \times n_1}$
57	$\Delta''_{k,\epsilon}$
57	e^{k-3-n}
56	$(0,0,0,0,w_0)$
55	$g, P \bigcup Q'$
53	$(\,0,\,\infty)$

32 (Sz: 7)	
#	Expr
175	$k-1,k,1$
109	β_{ij}^{ik}
77	α_{ij}^{ik}
75	$(X_{f,n}\,, z)$
71	$(\alpha; n, d, k)$
59	$i_1, \ldots, i_\sigma$
59	$n_1, \ldots, n_N$
58	$s+j, k-j$
57	$O_{e^{k-3-n}}$
56	$k-1,k,2$

32 (Sz: 8)	
#	Expr
38	$(S, \Theta_S(-\log D))$
33	$\omega^{s+j,k-j}$
33	t, τ, a, p_0
29	$\iota_{n_1+\cdots+n_N}$
25	p_1, p_2, p_3
24	$\sum_{\widetilde{c}=\widetilde{a}+2}$
23	(z_1,z_2,z_3,z_4)
22	$(M(*) \times M(*))_+$
20	$\frac{y_1+t_1}{\sqrt{2}}$
20	$\}_{j=1}^{2n+2}$

32 (Sz: 9)	
#	Expr
51	$(U(x_n)w_n, x_n)$
42	$(U(x_1)w_1, x_1)$
36	$r(1-\sigma), h+1$
34	$(D^*, \rho(z)d^2z)$
31	$\sum_{k=1}^{n/2-1}$
31	$\sum_{k=1}^{(n-1)/2}$
30	$\left(z, \bar{t}, b(t)\right)$
28	$V_2^{k-1,k,3}$
28	$\sum_{m=l_1(h)}^{l_2(h)}$
27	$i, j, E_i + E_j$

32 (Sz: 10)	
#	Expr
65	$\widetilde{L}_2^{k-1,k,1}$
27	$\left(\bigoplus_{i=1}^{r} N_{Y_i/S}\right)$
25	$(V,F_0^\bullet,F_1^\bullet,F_2^\bullet)$
24	$\widetilde{L}_3^{k-1,k,2}$
21	$(z_j, r_j, 1+\lvert z_j\rvert)$
20	$(z_0 \colon z_1 \colon \cdots \colon z_n)$
19	$\sum_{j=1, j\neq j_0}^{q}$
17	$h_{kp-n[kp/n]}$
17	$E^{\alpha_t}_{T_1T_2\cdots T_n}$
16	$\frac{f(u)du}{u-u_0}$

32 (Sz: 11to15)	
#	Expr
45	$\xi_1^2 + \xi_2^2 + \eta_1^2 + \eta_2^2$
36	$c, x, v_1 + v(c) + v$
30	$(e_k v_k + \widetilde{e}_k \widetilde{v}_k)$
27	$(X_{n-k} - X_{n-k-1})$
27	$\lambda, \frac{1}{k}\Delta''_{k,\epsilon}$
25	$\sum_{i=1}^{a_{t+1}-b_t}$
23	$(n_1 - n_2, d_1 - d_2)$
22	$(U(q_{z_1})w_1, q_{z_1})$
22	$(n", d", n', d')$
21	$\sum_{j=1}^{a_{\tau+1}-b_\tau}$

32 (Sz: 16to20)	
#	Expr
19	$f_j^{(m)}(s) + g_{j\|(m+1)}(s) + \theta_{j\|(m+1)}(s)$
18	$\left\{x_i + \varphi_i^{d+1}, x_j + \varphi_j^{d+1}\right\}_d$
18	$\left\{x_i + \varphi_i^{d+1}, x_j + \varphi_j^{d+1}\right\}$
16	$(z_0 - p_0, \cdots, z_{j-1} - p_{j-1})$
15	$(V, F_0^\bullet, F_1^\bullet, F_2^\bullet,\ Triv^\bullet)$
13	$x_1 y_2 + y_1 x_2 + z_1 t_2 + t_1 z_2$
13	$x_1 t_2 + t_1 x_2 + z_1 y_2 + y_1 z_2$
11	$\frac{64(\cos\theta_\mu + \cos\theta_\rho)}{\sin^2\theta_\mu \sin^2\theta_\rho}$
10	$\frac{c(TW)}{(1+F_0)\prod_{j\in J}(1+F_j)}$
10	$Y^1_{1;c,x,v_1+v(c)+v}$

33 (Special functions)

33 (Sz: 2)	
#	Expr
10074	-1
4398	$2n$
3838	q^2
2505	a_1
2496	x_i
2243	x_1
2121	$2k$
1960	x_0
1730	k_1
1382	z_i
1381	z_j
1304	t_1
1274	a^2
1266	k_i
1262	b_1

33 (Sz: 3)	
#	Expr
3885	$\frac{1}{2}$
3128	$n-1$
2490	$n+1$
2062	$i=1$
1647	$j=1$
1358	$k=1$
1302	$k-1$
1292	$k=0$
1213	$1/2$
1039	$k+1$
1015	$n=0$
936	$(q;q)$
915	$j=0$
810	q^{-1}
803	$i-1$

33 (Sz: 4)	
#	Expr
390	$-1/2$
382	q^{1-n}
333	q^{n+1}
304	$2n+1$
267	$q^{1/2}$
244	$2n-1$
238	$\lim_{n\to\infty}$
216	$2n-2$
196	z_{n+1}
191	$2k+1$
181	x_{n-1}
181	b_{r+1}
157	b_{r+2}
157	$(q;q)_n$
148	$j=-\infty$

33 (Sz: 5)	
#	Expr
629	$\sum_{n=0}^{\infty}$
377	$\prod_{i=1}^{r}$
369	$\sum_{k=0}^{\infty}$
321	$\sum_{k=0}^{n}$
308	$\prod_{i=1}^{n}$
284	$\prod_{j=1}^{n}$
256	$\prod_{k=1}^{n}$
251	$\sum_{k=1}^{\infty}$
224	$i,j=1$
202	$\sum_{i=1}^{n}$
168	$(q^2;q^2)$
163	$\sum_{n=1}^{\infty}$
141	$\frac{x_i}{x_j}$
140	$\}_{i=0}^{d}$
138	$\frac{1}{2\pi i}$

33 (Sz: 6)	
#	Expr
145	$\sum_{j=-\infty}^{\infty}$
89	$\sum_{k=-\infty}^{\infty}$
69	$\sum_{n=-\infty}^{\infty}$
63	$\frac{d\widetilde{H}}{dr}$
57	$\frac{d^2}{dx^2}$
57	(qz_k/z_j)
56	(x_0,y_0,y^0)
48	Mat_{d+1}
45	$\widetilde{u}_n^{\alpha,\beta}$
42	$q^{k_i+k_j}$

33 (Sz: 7)	
#	Expr
101	a,b,c,d
101	$(x(s),a,b)$
96	$\prod_{i,j=1}^{n}$
86	$\prod_{i,j=1}^{r}$
76	$1\le i,j\le n$
74	$\prod_{j,k=1}^{n}$
64	$\prod_{j=1}^{n+2}$
62	$\prod_{j=0}^{k-1}$
60	$(a,k;q,p)$
59	$\sum_{k=0}^{n-1}$

33 (Sz: 8)	
#	Expr
101	$(x(s),a,b)_q$
73	$-\alpha-\beta+\gamma+\delta$
49	$\det_{1\le i,j\le n}$
48	$(qz_k/z_j)_{y_k}$
38	$(x_0;y_0,y_l)$
35	$\frac{1}{2}n(n-1)$
32	$\det_{1\le i,j\le r}$
29	$F_{r,s,m,p}$
25	$\frac{z_2}{z_2-z_1}$
24	$q^{n(n-1)/2}$

33 (Sz: 9)	
#	Expr
73	$\frac{\Delta(zq^y)}{\Delta(z)}$
46	$(a,b,c,d;z)$
41	ℓ,B,g_2,g_3
37	$i^a_{k_1,\cdots,k_m}$
35	$k_1,\cdots,k_r=0$
35	$q^{\frac{1}{2}n(n-1)}$
34	$\alpha+\beta-\gamma-\delta+1$
31	$\sum_{k=1}^{n/2-1}$
31	$\sum_{k=1}^{(n-1)/2}$
30	$x_1,\cdots,x_p=0$

33 (Sz: 10)	
#	Expr
44	$k_1,\cdots,k_r=-\infty$
30	L_{ℓ,B,g_2,g_3}
30	$q^{2k_2-2k_1+1}$
28	$q^{2k_1+2k_2-1}$
28	$\frac{\left(1-aq^{2n}\right)}{(1-a)}$
26	$k_1,\cdots,k_n=-\infty$
26	$(x(t),a',b')_q$
26	$y_1,\cdots,y_n=-\infty$
25	$(q,a,q/a;q)_\infty$
22	$2m+l_0+l_1+2$

33 (Sz: 11to15)	
#	Expr
45	$x_i q^{k_i} - x_j q^{k_j}$
43	$\sum_{k_1,\cdots,k_r=-\infty}^{\infty}$
40	$(x-a)^{-\alpha-\beta+\gamma+\delta}$
31	$\sum_{k_1,\cdots,k_r=0}^{\infty}$
30	$e_k v_k + \widetilde{e}_k \widetilde{v}_k$
29	$n_1, \cdots, n_{k-1} \geq 0$
29	$(x_0, y_0, y^0; y_l)$
28	$\sum_{n_1,\cdots,n_{k-1}\geq 0}$
27	$n_1, \cdots, n_{k-1} = 0$
27	$\sum_{n_1,\cdots,n_{k-1}=0}^{\infty}$
27	$(x; q, p, t, a, b)$
26	$\sum_{k_1,\cdots,k_n=-\infty}^{\infty}$
25	$\left(z^{(n-b)}, w^{(n-a)}, x; t\right)$
25	$\widetilde{\alpha}_0, \widetilde{\alpha}_1, \widetilde{\alpha}_2, \widetilde{\alpha}_3$
22	$\frac{\tau_j m_j + n_j}{\tau_j m_j}$
21	$\frac{1}{(\rho+x)(1+x)^{n-2}}$
20	$\epsilon_0, \epsilon_1, \epsilon_2, \epsilon_3$

33 (Sz: 16to20)	
#	Expr
45	$\frac{x_i q^{k_i} - x_j q^{k_j}}{x_i - x_j}$
23	$\sum_{x_1,\cdots,x_p=0}^{m_1,\cdots,m_p}$
20	$\omega_{f_{m_1,p_1,t_1}, f_{m_2,p_2,t_2}}$
20	$f_{m_1,p_1,t_1}, f_{m_2,p_2,t_2}$
19	$\sum_{y_1,\cdots,y_n=0}^{m_1,\cdots,m_n}$
18	$\frac{z_i q^{k_i} - z_j q^{k_j}}{z_i - z_j}$
17	$\frac{y_i q^{k_i} - y_j q^{k_j}}{y_i - y_j}$
14	$\frac{1 - a z_i q^{k_i + \lvert k \rvert}}{1 - a z_i}$
13	$x_1 y_2 + y_1 x_2 + z_1 t_2 + t_1 z_2$
13	$x_1 t_2 + t_1 x_2 + z_1 y_2 + y_1 z_2$
11	$\frac{\theta\left(a z_k q^{y_k + \lvert y \rvert}\right)}{\theta(a z_k)}$
11	$\frac{\left(q^{-m_j} z_k / z_j\right)_{y_k}}{\left(q z_k / z_j\right)_{y_k}}$
11	$\frac{\left(c_i z_k q^{m_i}\right)_{y_k}}{\left(c_i z_k\right)_{y_k}}$
11	$\left(\frac{a^{r-1} q^{r-2}}{b_3 \cdots b_{2r}}\right)^n$
11	$i_1! i_2! \cdots i_{n-1}! \langle \sigma \rangle_{i_{n-1}}$
10	$b_1 + b_3 + b_4 - a_3 - a_4 - a_5$

34 (Ordinary differential equations)

34 (Sz: 2)	
#	Expr
8283	-1
2978	x_0
2690	t_0
1872	dt
1659	$2n$
1607	x^2
1598	x_1
1425	dx
1389	(x,y)
1302	y_0
1072	x_2
1007	t_1
966	a_1
953	c_0
944	L^2

34 (Sz: 3)	
#	Expr
2485	$\frac{1}{2}$
1230	$n+1$
1098	$n-1$
929	$k+1$
886	$1/2$
844	$i=1$
724	$j=1$
704	$k-1$
590	$i+1$
538	$k=1$
532	$m-1$
405	$\int_0^t$
401	$\int_0^1$
373	$(k+1)$
369	$i-1$

34 (Sz: 4)	
#	Expr
478	$-1/2$
282	$[t_0,c_0]$
279	$\frac{d}{dx}$
272	$\frac{d}{dt}$
173	u_{k+1}
172	$-\log D$
161	$2n-2$
160	e, e'
145	(ϵ_1,ϵ_2)
131	(x_0,y_l)
124	$\lim_{n\to\infty}$
122	$2n-1$
112	$-1/3$
104	(x_0,y_0)
99	$\lim_{t\to\infty}$

34 (Sz: 5)	
#	Expr
178	$\sum_{i=1}^{n}$
156	$\sum_{n=0}^{\infty}$
110	$\sum_{k=1}^{\infty}$
110	$\frac{1}{2\pi i}$
109	$\sum_{k=0}^{\infty}$
108	$\sum_{n=1}^{\infty}$
105	$\frac{1-j}{m}$
98	$2+\alpha, I$
88	$\sum_{k=1}^{n}$
86	$\sum_{j=1}^{n}$
76	$(p_1,\ldots,p_k)$
67	$\sum_{j=1}^{m}$
66	$\}_{n=1}^{\infty}$
65	t_0, x_0
61	$\sum_{j=1}^{m}$

34 (Sz: 6)	
#	Expr
93	$\frac{d^2}{dx^2}$
56	(x_0,y_0,y^0)
40	$(x-1)^{1-\delta}$
35	$([0,1], IR^n)$
34	$\frac{2m}{m+2}$
33	$\mu_{0,1,2}$
31	$e^{-\frac{i\pi}{4}}$
28	$\epsilon^{a+1/2}$
27	$\frac{\dot{z}_j}{z_j}$
27	$e^{-i\lambda^2 t}$

34 (Sz: 7)	
#	Expr
46	$\frac{1}{2}+\frac{1}{m}$
43	$\frac{d\zeta}{2\pi i\zeta}$
41	$\frac{x-1}{a-1}$
40	$0,1,2,3$
38	$\sum_{k=0}^{n-1}$
37	$i_1,\cdots,i_k$
35	$\sum_{l=1}^{n+2}$
35	$\sum_{j=0}^{k-1}$
32	$\frac{x-a}{1-a}$
30	Z_{p+1}^{r-1}

34 (Sz: 8)	
#	Expr
73	$-\alpha-\beta+\gamma+\delta$
62	$\Big(k; A, B, a\Big)$
40	$\mu_{0,1,2,3}$
38	$(x_0; y_0, y_l)$
38	$(S, \Theta_S(-\log D))$
25	$\frac{\partial\Psi^\alpha}{\partial\dot{q}^a}$
25	$\widehat{\tau}^g_{x_0,x^\flat}$
24	$D_{t_j,\rho_j(t^0)}$
24	$L^{1,2}_{-2+\delta}$
23	$1-\beta^{-1}\alpha^{-1}$

34 (Sz: 9)	
#	Expr
67	$\left(\frac{1}{2}+\frac{1-j}{m}\right)$
51	$(U(x_n)w_n, x_n)$
50	$(E_1/H, E_2/H)$
42	$(G^{-1}(a), \omega^{-2}\lambda)$
42	$(U(x_1)w_1, x_1)$
41	ℓ, B, g_2, g_3
38	$\frac{1}{2}+\frac{1-j}{m}$
34	$(\alpha+\beta-\gamma-\delta+1)$
27	i, j, E_i+E_j
25	$(G^{-2}(a), \omega^{-4}\lambda)$

34 (Sz: 10)	
#	Expr
30	L_{ℓ,B,g_2,g_3}
27	$\left(\bigoplus_{i=1}^{r} N_{Y_i/S}\right)$
16	$\left(\frac{x-1}{a-1}\right)^{1-\delta}$
15	$\frac{\partial\widehat{\Lambda}}{\partial u_t^{(m-1)}}$
15	$V_{2n-2}^{k_{2n-2}}$
15	$k_0,\cdots,k_{2n-2}$
15	$(x; x_0, y_0, y_l)$
13	$\frac{m(\beta)}{2q(\beta^{-1})}$
12	$\widetilde{r}\left(e^{i\theta}\right)v\left(e^{i\theta}\right)$
11	$(-1)^{\frac{n(n+1)}{2}}$

34 (Sz: 11to15)	
#	Expr
40	$(x-a)^{-\alpha-\beta+\gamma+\delta}$
29	$(x_0, y_0, y^0; y_l)$
22	$(\psi_n(z+\triangle z), z+\triangle z)$
22	$(U(q_{z_1})w_1, q_{z_1})$
21	$(U(x_{i-1})w_{i-1}, x_{i-1})$
20	$(U(x_{i+1})w_{i+1}, x_{i+1})$
20	$\frac{\alpha-\alpha^{-1}}{\lvert\alpha-\alpha^{-1}\rvert}$
19	$(U(q_{z_n})w_n, q_{z_n})$
17	$\left(1-\frac{x}{a}\right)^{-\alpha-\beta+\gamma+\delta}$
16	$\left(\frac{x-a}{1-a}\right)^{-\alpha-\beta+\gamma+\delta}$

34 (Sz: 16to20)	
#	Expr
16	$(\psi_n(\widehat{g}(\psi_n(z),z)), \widehat{g}(\psi_n(z), z))$
9	$\frac{2\pi i e^{2\pi i x_2}}{e^{2\pi i x_2}-1}$
8	$(1+\lvert\beta\rvert)^{r-1+\eta}(1+n)^{1+\eta}(1+k)^{1+\eta}$
8	$b_1+b_3+b_4-a_3-a_4-a_5$
8	$\left(a-\frac{i}{2}\right)+\frac{2h_0(\tau)}{(\epsilon b)^{1/3}}$
8	$b_2+b_3+b_4-a_3-a_4-a_5$
8	$\left(S_{\alpha,t}, \Theta_{S_{\alpha,t}}(-\log D_{\alpha,t})\right)$
7	$-\mu(-\kappa)-\frac{2}{3}n_1-\frac{1}{3}n_2+m$
7	$\frac{2\pi i e^{2\pi i x}}{e^{2\pi i x}-1}$
7	$(w_1, \cdots, w_n; z_1, \cdots, z_n; q)$

35 (Partial differential equations)

35 (Sz: 2)	
#	Expr
19752	-1
14565	L^2
8098	dx
5634	t_0
4735	x_0
4628	∂_t
4607	ij
4572	u_0
4183	dt
4142	(t,x)
3599	(x,t)
3420	H^1
3346	ds
3336	R^3
3044	$\int_{\Omega}$

35 (Sz: 3)	
#	Expr
10091	$\frac{1}{2}$
4897	$1/2$
3442	$n-2$
3416	$n-1$
2549	$\int_0^t$
2485	$n+1$
2092	$j=1$
2028	$i=1$
1673	$k+1$
1447	$p-1$
1447	$k-1$
1395	$\lvert x-y\rvert$
1254	$\frac{1}{4}$
1165	$N-1$
1143	$1,2$

35 (Sz: 4)	
#	Expr
2111	$-1/2$
955	$-\frac{1}{2}$
660	$\frac{d}{dt}$
427	$W^{1,p}$
397	$\int_{-\infty}^{\infty}$
394	$-3/2$
358	$\frac{\partial}{\partial t}$
352	S^{n-1}
340	$\delta_{x,\lambda}$
337	H^{N-1}
299	$(\Omega;R^2)$
283	$\lim_{n\to\infty}$
258	H^{s-1}
243	$e^{\sigma+u}$
228	$t-t'$

35 (Sz: 5)	
#	Expr
776	$(t,\blacksquare)$
534	$\frac{n-2}{2}$
442	$(\Omega_0;R^3)$
379	$(s,\blacksquare)$
310	$\sum_{j=1}^{n}$
285	$\sum_{i=1}^{p}$
252	$\frac{4}{n-2}$
252	$\sum_{i=1}^{n}$
239	$\frac{2}{n-2}$
223	$\frac{1}{2\pi i}$
214	$i,j=1$
197	$H^{-\frac{1}{2}}$
197	$\frac{n-1}{2}$
192	$\frac{n}{n-2}$
185	$e^{\sigma+u_j}$

35 (Sz: 6)	
#	Expr
199	$\frac{2n}{n-4}$
192	$\frac{2n}{n-2}$
176	$\left(\Omega_0^f;R^3\right)$
154	$L_t^2L_x^2$
144	$H_1^{-1/2}$
135	$\left(\Omega_0^f;R^9\right)$
135	$N-2-2a$
125	$\partial P\delta_{x,\lambda}$
122	$L_t^\infty L_x^\infty$
106	$0,\frac{1}{2}+$

35 (Sz: 7)	
#	Expr
445	$\frac{n+2}{n-2}$
194	$\frac{n+4}{n-4}$
110	(x',ξ',μ)
96	$p-1,q-1$
90	$-(a+1)p+c$
88	$\sum_{i,j=1}^{n}$
75	$j_1,j_2\geq 0$
75	$(g(t),K(t))$
70	$u^{\frac{2n}{n-2}}$
69	$(t,x;\tau,\xi)$

35 (Sz: 8)	
#	Expr
89	$\lvert x\rvert^{-(a+1)p+c}$
79	$u^{\ fracn+2n-2}$
75	$\mathbb{R}^{p-1,q-1}$
62	$L^2\left(\Omega_0^f;R^9\right)$
62	$\frac{N-2-2a}{2}$
53	ϕ_{1,j_1,m_1}
52	$(1+s+\lvert y\rvert)^{1+\mu}$
45	$\frac{2(n-1)}{n-2}$
45	$\rangle^{-2-k_0-s}$
44	$(P\delta_{x,\lambda}+v_\epsilon)$

35 (Sz: 9)	
#	Expr
86	$\frac{\partial P\delta_{x,\lambda}}{\partial\lambda}$
68	$[t_0-\delta,t_0+\delta]$
68	$\lvert\alpha\rvert+\mu\leq N_0+\nu_0$
62	$X_{100\epsilon,1/2+\epsilon}$
45	$L^2(\Omega_0^s;R)$
39	$L^2(\Omega_0^f;R)$
38	$\left[-\frac{\pi}{2},\frac{\pi}{2}\right]$
36	$\int_{t_r^\delta}^{t_{r+1}^\delta}$
36	$r(1-\sigma),h+1$
36	$\square_{\mathbb{R}^{p-1,q-1}}$

35 (Sz: 10)	
#	Expr
93	$L^2(\Omega_0^f;R^3)$
43	$H^{-\frac{1}{2}}(\Gamma_0;R^3)$
36	$L^2(R_+^3;R^3)$
33	$\frac{\partial_\lambda^{m-1}}{(m-1)!}$
30	$L^2(\Omega_0^s;R^3)$
28	$\Pi_{m-1,m-1,p}$
28	$e^{2\pi i(x-y)\blacksquare\xi}$
26	$\{-\sigma\rho(t,x;0,\xi)\}$
26	(x',y',ξ',μ)
24	$\lVert u_{\lambda,p}\rVert_\infty^{(p-1)/2}$

35 (Sz: 11to15)	
#	Expr
57	$(0,T;H^1(\Omega_0;R^3))$
47	$L^2(0,T;H^1(\Omega_0;R^3))$
39	$\big(0,T;H^1(\Omega_0;R^3)'\big)$
33	$L^2\big(0,T;H^1(\Omega_0;R^3)'\big)$
33	$\lvert\alpha\rvert+\mu\le N_0+\nu_0+1$
31	$\big(S_{\eta(t,\cdot)}(w,r)\,\cdot\,a^TN\big)$
31	$(0,T;H^3(\Omega_0;R^3))$
30	$\lVert L^\mu\partial^\alpha u'(t,\,\cdot\,)\rVert$
29	$(1+r)^{-(n-1)/4}$
26	$L^2(0,T;H^3(\Omega_0;R^3))$

35 (Sz: 16to20)	
#	Expr
32	$X^{1,\frac12+\epsilon}_{[t_0-\delta,t_0+\delta]}$
22	$\frac{\left(x-y-a_k^-(t-s)\right)^2}{M(t-s)}$
20	$L^2\Big(0,T;H^{-\frac12}(\Gamma_0;R^3)\Big)$
19	$e^{-\frac{\left(x-y-a_k^-(t-s)\right)^2}{M(t-s)}}$
19	$-\frac{\left(x-y-a_k^-(t-s)\right)^2}{M(t-s)}$
18	$\partial g_i(u_1,...,u_{i-1},u_{i+1},...,u_N)$
18	$\frac12-\frac{k+m+1}{n}-\frac{1}{n+1}$
14	$-\sigma t^{-\frac{\alpha}{2-\alpha}}\lvert x-\xi\rvert^{\frac{2}{2-\alpha}}$
12	$(u_0-u_0{}',A_0-A_0{}',A_1-A_1{}')$
11	$N_1,N_2,N_3;H;L_1,L_2,L_3$

37 (Dynamical systems and ergodic theory)

37 (Sz: 2)	
#	Expr
21058	-1
3714	t_0
3553	x_1
3353	x_0
2483	(x,y)
2192	x_2
2129	S^1
2042	$2n$
1986	z_1
1929	[0,1]
1777	t_1
1737	L^2
1702	dt
1579	z_2
1524	T^*

37 (Sz: 3)	
#	Expr
4846	$n-1$
3765	$\frac{1}{2}$
3245	$n+1$
2519	$k+1$
2082	$k-1$
1992	$i=1$
1624	$i+1$
1472	$j=1$
1164	$n\to\infty$
1031	$i-1$
1002	$j=0$
916	α^{-1}
855	$k=1$
851	$j+1$
851	f^{-1}

37 (Sz: 4)	
#	Expr
708	$\lim_{n\to\infty}$
357	$\frac{d}{dt}$
351	$-1/2$
271	(x_1,x_2)
224	$[-1,1]$
221	$\lim_{t\to\infty}$
199	$\int_0^{2\pi}$
197	u_{k+1}
187	$\lim_{k\to\infty}$
173	$lim\ sup_{n\to\infty}$
165	$-\frac{1}{2}$
157	$\frac{1}{2\pi}$
156	$s_{n,i}$
155	$P^{(p-1)}$
153	x_{n-1}
5143	q_{n+1}

37 (Sz: 5)	
#	Expr
266	$\sum_{i=1}^{n}$
198	$1,p,\epsilon$
177	$\sum_{n=1}^{\infty}$
150	$\sum_{j=1}^{n}$
150	$\sum_{k=1}^{\infty}$
142	$\frac{\partial}{\partial z_1}$
131	$\frac{\partial}{\partial z_0}$
131	$\frac{\partial}{\partial z_2}$
131	$\sum_{n=0}^{\infty}$
131	$\sum_{k=1}^{n}$
125	$W_X^{s,+}$
116	k,ℓ,m
110	$\sum_{k=0}^{\infty}$
109	$\sum_{i=1}^{k}$
99	$W_X^{s,-}$

37 (Sz: 6)	
#	Expr
75	$\widetilde{M}^0_{B,\Sigma}$
73	(x_1,x_2,x_3)
68	$\frac{K(x)}{\epsilon^p}$
53	$z_{k,\ell,m}$
51	$\Delta^{(k)*}_{l,j}$
51	$HF^{(a,b)}$
46	$r_{\gamma(n-1)}$
45	$\|\zeta\|_{1,p,\epsilon}$
42	$M^{B,N}_{t_0}$
39	$\{-1,0,1\}$

37 (Sz: 7)	
#	Expr
206	$\sum_{k=0}^{n-1}$
189	$\sum_{j=0}^{n-1}$
138	$\sum_{i=0}^{n-1}$
87	a,b,c,d
75	$\sum_{n=0}^{N-1}$
61	$(x_1,x_2,\ldots,x_n)$
57	$\sum_{j=0}^{k-1}$
51	$\pi^{(i)-1}_{l,j}$
50	$1,\frac{1}{2}+\epsilon$
48	$\left(X_u,\frac{u}{\epsilon^2}\right)$

37 (Sz: 8)	
#	Expr
42	$HF^{(a,b)}_{n_0}$
42	$f_{3.2^{k-2}+1}$
38	$\left(1-\frac{c}{\mu}M(\lvert t\rvert)\right)$
36	$\sum_{i=0}^{r_n-1}$
31	$\left(n-r_{\gamma(n-1)}\right)$
29	(t_0,q_0,t_1,q_1)
28	$\omega_i,u^{-1}\omega_i$
28	$(x_1-x_2\omega,0)$
27	$(\Sigma,u^*TM/G)$
26	$X^{0,\frac{1}{2}+\epsilon}$

37 (Sz: 9)	
#	Expr
53	$[t_0-\delta,t_0+\delta]$
46	$(a,b,c,d;z)$
29	$(\chi,\epsilon,k,n;F)$
28	$\Delta_{\omega_i,u^{-1}\omega_i}$
22	$L^2(]0,1[)$
19	$N,(i_1,i_2,\ldots,i_k)$
18	$\overbrace{X_{-\frac{1}{2},\frac{1}{2}}}$
17	$(\frac{\partial L}{\partial u^{(j)}})$
17	$\nu(k(N+1)+t)$
17	$\sum_{i=1}^{r}t_i\beta_i$

37 (Sz: 10)	
#	Expr
18	$\left(\left[v^0_{q_e}\right],\mu^0_1,\mu^0_2\right)$
17	$\gamma;\ a,b,c,d$
15	$\frac{\partial\widehat{\Lambda}}{\partial u_t^{(m-1)}}$
15	$\frac{\log\tau_r(x)}{-\log r}$
15	$(x_1-x_2\omega,0)^{-1}$
14	$L_0L_1L_2L_3L_4$
14	$\left(\gamma x_0h^{-1}x_0^{-1}\right)$
14	$N_0N_1N_2N_3N_4$
13	$\lvert F^n_*\lambda-F^n_*\lambda'\rvert$
13	$S_{N,(i_1,i_2,\ldots,i_k)}$
11	$\{\bar{i}^1_m,\cdots,\bar{i}^{n_m}_m\}$

37 (Sz: 11to15)	
#	Expr
29	$1-\left(1-\frac{c}{\mu}M(\lvert t\rvert)\right)z$
22	$(\psi_n(z+\triangle z), z+\triangle z)$
22	$(t_k,q_k,t_{k+1},q_{k+1})$
21	$N,(i_1,i_2,...,i_{k-2},i_k)$
21	$(i_1,i_2,...,i_{k-2},i_k)$
21	$A_{N,(i_1,i_2,...,i_{k-2},i_k)}$
20	$\left(M_t^{B,N}-M_{t_0}^{B,N}\right)$
20	$(f_{3.2^{k-2}+1},...,f_{2^k-1})$
19	$\frac{\tau(B(x,r))}{-\log r}$
19	$\left(k,k_\circ,x_\circ,\omega^z_{(k_\circ,k)}\right)$

37 (Sz: 16to20)	
#	Expr
32	$X^{1,\frac{1}{2}+\epsilon}_{[t_0-\delta,t_0+\delta]}$
16	$(\psi_n(\widehat{g}(\psi_n(z),z)),\widehat{g}(\psi_n(z),z))$
14	$e^{A(t-s)+\int_s^t z(\theta_r\omega)dr}$
14	$A(t-s)+\int_s^t z(\theta_r\omega)dr$
11	$L^2(]s_0,s_1[\times]0,1[)$
11	$\lVert Iw\rVert_{X^{1,\frac{1}{2}+\epsilon}_{[t_0-\delta,t_0+\delta]}}$
9	$r_1,\ldots,r_{l-1},k,r_{l+1}$
9	$X^{1,-\frac{1}{2}+2\epsilon}_{[t_0-\delta,t_0+\delta]}$
8	$(v_0+v_1(v_0,\alpha,\lambda,\xi),\alpha,\lambda,\xi)$
8	$C^{p+I_n^-(\sigma^p(x))}_{-p-I_n^+(\sigma^{-p}(x))}$

39 (Difference and functional equations)

39 (Sz: 2)	
#	Expr
2201	-1
416	z_j
389	x_1
373	t_0
293	κ_v
293	t_1
285	σ_q
268	$3x$
254	$\widetilde{p}$
246	z_1
240	x_0
236	x_i
230	F_1
225	$2n$
225	C^*

39 (Sz: 3)	
#	Expr
562	$n+1$
405	$n-1$
404	$j=1$
313	$\frac{1}{2}$
167	$j=0$
163	$i=0$
159	$k-1$
145	$k=1$
143	$q-1$
143	z^{-1}
140	$k=0$
134	$n\to\infty$
134	$i-1$
128	$m-1$
114	$k+1$

39 (Sz: 4)	
#	Expr
79	$e_{q,c}$
76	$\sum_{n\geq 0}$
71	$[x,x^{-1}]$
65	κ_{n+1}
59	ϕ_{n+1}
57	$W_{\alpha,\Lambda}$
50	$\omega_{n,y}$
47	z_j^{-1}
47	$(\alpha^*)^{-1}$
46	$\lim_{n\to\infty}$
45	q^{n-1}
44	Σ_n^{-1}
43	a_{i-1}
43	$2\pi i\zeta$
42	$lim\ sup$ $_{n\to\infty}$
537	$\epsilon\to 0^+$

39 (Sz: 5)	
#	Expr
72	$[n]_q^!$
65	$\sum_{j=1}^{m}$
64	$\sum_{i=1}^{n}$
56	$(z;q,p)$
49	$\sum_{k=0}^{n}$
44	$\prod_{k=1}^{n}$
37	$\sum_{j=1}^{n}$
37	$\bar{\phi}_{n+1}$
36	$\sum_{i=0}^{m}$
34	$\lim_{\epsilon\to 0^+}$
34	$\rangle_{j=1}^{\infty}$
32	$\sum_{j=1}^{\infty}$
30	$\}_{n=0}^{\infty}$
30	$\bigcup_{j=1}^{n}$
28	a,b,c

39 (Sz: 6)	
#	Expr
27	$\frac{\dot{z}_j}{z_j}$
23	$(x-\xi)_{q,n}$
23	$e^{-2\pi iy}$
23	$\bar{\phi}_{n+1}(0)$
19	$\lvert(q-1)\xi\pi_q\rvert$
19	$\nu^{1-1/k}$
19	$(-1)^{\ell(\lambda)}$
19	$(C-\lambda I)^{-1}$
18	$\lvert 1-q^{\kappa_v}\rvert_v$
17	$(-1)^{\ell(\mu)}$

39 (Sz: 7)	
#	Expr
87	a,b,c,d
43	$\frac{d\zeta}{2\pi i\zeta}$
39	$\prod_{j=1}^{n+2}$
25	$\frac{\kappa_{n+1}}{\kappa_n}$
24	$\lvert p\rvert_v^{1/(p-1)}$
17	$(\alpha+iI_N)^{-1}$
16	$(\alpha-iI_N)^{-1}$
16	(a_i-a_{i-1})
16	$\frac{\lambda-1}{q-1}$
15	$1/\kappa_v(p-1)$

39 (Sz: 8)	
#	Expr
24	$L_{a,b,c,d}$
13	$(A_k{}'-\lambda i_k{}')$
12	$\left\lvert[\kappa_v]_q\right\rvert_v^{1/\kappa_v}$
11	$\prod_{m=1}^{2n+3}$
11	$\lvert(\widetilde{q}-1)\xi\pi_{\widetilde{q}}\rvert$
11	$((x_1,x_2),(y_1,y_2))$
11	$\frac{q^m-1}{q-1}$
11	$Q_{a,b,c,d}$
10	$\prod_{j=1,\neq i}^{n}$
9	$P_{a,b,c,d}$

39 (Sz: 9)	
#	Expr
46	$(a,b,c,d;z)$
17	$(k,x(k),u(k))$
17	$\left(\ln(\nu)+\nu^{1-1/k}\right)$
15	$\lvert p\rvert_v^{1/\kappa_v(p-1)}$
15	$\frac{d_q^n}{[n]_q^!}$
13	$i=0,\cdots,\mu-1$
10	$(\Lambda_n^*\Sigma_n^{-1}\Lambda_n)$
9	$\frac{\bar{\phi}_{n+1}(0)}{\kappa_n}$
8	$2^{(i-1)(1-1/k)}$
8	$\frac{d_q^k}{[k]_q^!}$

39 (Sz: 10)	
#	Expr
17	$\gamma;\ a,b,c,d$
13	$\sup_{i=0,\cdots,\mu-1}$
11	$(\max(\epsilon,1/\epsilon))^{k-1}$
10	$\frac{\log x\log z}{\log q}$
10	$\partial z_{i_1}\cdots\partial z_{i_{k_2}}$
8	$((x_1,...,x_n),(y_1,...,y_n))$
8	$\frac{l}{k_1,k_2,k_3}$
7	$(u,g,h;\omega;A_n)$
7	$(2-n)^{\delta_{il}+\delta_{jm}}$
7	$k_1,k_2,k_3\geq 0$

39 (Sz: 11to15)	
#	Expr
19	$(k, x(k), u(k), s)$
11	$\frac{x(1-y)}{y(1-x)}$
10	$(k, x(k), x(k+1), s)$
10	$-A\big(\ln(\nu) + \nu^{1-1/k}\big)$
9	$(1-2^{p-2})(1-2^{p-1})$
9	$(q;q)_\infty^n (p;p)_\infty^n$
9	$A_{\gamma;\, a,b,c,d}$
9	$\big(1+\frac{i}{n}, \ldots, 1+\frac{i}{n}\big)$
8	$(k, x(k), x(k+1))$
8	$\frac{x(1-y)^2}{y(1-x)^2}$

39 (Sz: 16to20)	
#	Expr
5	$(k, x(k), u(k), \psi_0, \psi(k+1))$
5	$\frac{6-2^{p+1}}{(1-2^{p-2})(1-2^{p-1})}$
5	$\frac{(n+1)!}{(q;q)_\infty^n (p;p)_\infty^n}$
5	$\frac{(-1)^{r-i}}{(d-r)!i!(r-i)!}$
4	$\frac{3-2^p}{(1-2^{p-2})(1-2^{p-1})}$
4	$\frac{\theta\left(At_j^{-1};p\right)}{\theta(t_1 t_j;p)}$
4	$\frac{\partial^{k_2}\Delta^{k_3} f(z)}{\partial z_{i_1}\cdots\partial z_{i_{k_2}}}$
4	$\frac{\partial^{k_2}\Delta^{k_1} g(z)}{\partial z_{i_1}\cdots\partial z_{i_{k_2}}}$
4	$(k, x^0(k), \ldots, x^{m-1}(k), u(k))$
4	$(1-q^0, 1-q, \cdots, 1-q^{n-1})$

40 (Sequences, series, summability)

40 (Sz: 2)	
#	Expr
363	r^ϵ
314	$a\epsilon$
305	$b\epsilon$
296	$4k$
271	dx
263	-1
238	x_3
222	z_k
202	q_k
188	k_1
187	L^2
173	Ω^a
166	Li
159	dt
159	Ω^b

40 (Sz: 3)	
#	Expr
204	$k+1$
189	$k=1$
185	$n-1$
171	q_k^d
133	$1-z$
131	Δ_τ^d
126	$\frac{1}{2}$
101	p_k^d
84	$n+1$
83	$k-1$
82	$k=0$
76	$n=0$
74	$j=1$
73	3×3
73	$\int_{\Omega^a}$

40 (Sz: 4)	
#	Expr
97	p_{k+1}
83	$z-z_k$
56	$w-z_k$
48	Li_Σ^{ab}
46	$\frac{d}{dz}$
43	$(x', 0)$
40	$L^2(\Omega^a)$
37	$L^2\big(\Omega^b\big)$
37	$(w-z_s)$
35	q_{k+1}
34	$w-z_j$
32	$4k-1$
30	k^2-1
28	l_{m-1}
27	L_{i-1}

40 (Sz: 5)	
#	Expr
53	$\frac{1}{2\pi i}$
52	$k=n+1$
48	$\sum_{n=0}^{\infty}$
39	$\prod_{k=1}^{p}$
39	$\frac{1}{1-z}$
39	n, j, l
36	$\sum_{k=1}^{\infty}$
33	$\prod_{k=1}^{m}$
31	$\sum_{n=1}^{\infty}$
29	$(\lambda_2+\lambda_3)$
29	(x', r^ϵ)
28	$\}_{i=1}^m$
25	(x', x_3)
23	$p, q=0$
22	$z_j - z_k$

40 (Sz: 6)	
#	Expr
34	$(r^\epsilon x', 0)$
33	(q_k, p_{k+1})
25	(z_1, z_2, z_3)
24	$f(w)\, dw$
20	$\big(q_k^d, p_k^d\big)$
18	$L_{i-1}+1$
16	$\|x_3=-1$
13	$\|z-z_k\|^{m_k}$
13	$\big(q_k^d, Q_k^d\big)$
13	$(x', \epsilon x_3)$
13	$a_{n,j,l}$
13	$\|w-z_k\|^{m_k}$
12	$\big(x_k^d, u_k^d\big)$
11	$1, \ldots, 1$
9	$(k^2-t^2)^3$
9	$\sum_{k=-\infty}^{\infty}$
9	$\Delta_\tau^d q_k^d$
9	$(\pm X_{ij}\pi i)$
8	$1, \cdots, 1$
8	$k(k^2-1)^6$

40 (Sz: 7)	
#	Expr
50	$\sum_{k=n+1}^{\infty}$
48	$k=1, k\neq j$
47	$\sum_{k=0}^{n-1}$
32	$\frac{z_{ji}}{z_{ki}}$
25	$(L^2(\Omega^a))^{3\times 3}$
25	$\left(L^2\left(\Omega^b\right)\right)^{3\times 3}$
22	$\sum_{p,q=0}^{m}$
19	$(w-z_j)^{l+1}$
18	$(w-z_s)^{nm_s}$
17	$(r^{\epsilon}x', x_3)$
16	$\prod_{k=q+1}^{p}$
15	$s=1, s\neq k$
15	$q_{k+1}+q_k$
14	$(n+1)m_s$
14	$\prod_{k=s+1}^{m}$
14	$(\alpha,\beta,\gamma;z)$
14	$\sum_{n=0}^{N-1}$
13	$a_{p,q}^{(l,m,n)}$
12	$(q_k, \Delta_\tau q_k)$
11	$n_{L_{i-1}+1}$

40 (Sz: 8)	
#	Expr
20	$(0,1;H^1(\omega^a))$
17	$\lambda_1+\lambda_2+\lambda_3$
11	$\prod_{a=1}^{4k-1}$
10	$(\lambda_1+\lambda_2)^{n-s}$
10	$\frac{du_\alpha^a}{dx_3}$
8	$\frac{1}{k(k^2-1)^6}$
8	$\left(u^{a\epsilon}, u^{b\epsilon}\right)$
8	$(X_{ij}, -X_{jk})$
8	(x_k, p_{k+1}, u_k)
7	X_a^{4k+1-a}
7	$C_k, -D_2 S_k$
7	$\sum_{l=0}^{m_j-1}$
7	$\frac{1}{z}+\frac{z}{R^2}$
6	$u^b_{\vert x_3=-1}$
6	$\frac{x^{-s}}{2^s-1}$
6	$\frac{\partial u_3^a}{\partial x_\alpha}$
6	$-\aleph Df\wedge\bar{\partial}\sigma$
5	$\frac{-z}{1-z}$
5	$32k^2+2a-1$
5	(q_k, p_{k+1}, u_k)

40 (Sz: 9)	
#	Expr
24	$\prod_{k=1,k\neq j}^{m}$
18	$(x,t\vert x_0,t_0)$
17	$\left(\omega^b; H^1(-1,0)\right)$
15	$\frac{q_{k+1}+q_k}{2}$
13	$\prod_{s=1,s\neq k}^{p}$
12	$\frac{p_{k+1}+p_k}{2}$
11	$\frac{\Delta_\tau q_k}{\Delta_\tau t_k}$
10	$\prod_{k=1,k\neq j}^{p}$
9	$\left(x_k^d, p_k^d, u_k^d\right)$
8	$[1;1,1,1,\cdots]$
8	$\prod_{s=1,s\neq j}^{p}$
8	$\left(n_{L_{i-1}+1}-\lambda\right)$
7	$\zeta\centerdot e\wedge\bar{\zeta}\centerdot e^*$
7	$\sum_{k=1,k\neq j}^{p}$
7	$m+n-p-k-1$
6	$s=q+1, s\neq k$
6	$l_j+\cdots+l_{m-1}$
6	$(y,t\vert x_0,t_0)$
6	$1\leq i_1\leq\ldots\leq i_s$
5	$k=q+1, k\neq j$

40 (Sz: 10)	
#	Expr
26	$[a_0; a_1, a_2, \cdots]$
20	$\left(q_k^d, \Delta_\tau^d q_k^d\right)$
19	$[a_0; a_1, \cdots, a_n]$
10	$(\lambda_2+\lambda_3)^{k-n-s}$
8	$\frac{t^6}{k(k^2-t^2)^3}$
7	$\frac{f(w)\,dw}{w-z}$
7	$\frac{1}{iy}+\frac{iy}{R^2}$
6	$\frac{k_r+\epsilon_r-1}{\epsilon_r}$
6	$\sum_{1\leq i_1\leq\ldots\leq i_s}$
6	$(-\lambda')^{m-\vert\delta'\vert-\vert\epsilon'\vert}$

40 (Sz: 11to15)	
#	Expr
16	$(w,z;z_1,\ldots,z_m)$
14	$(w-z_s)^{(n+1)m_s}$
9	$(q_{k-1}, \Delta_\tau q_{k-1})$
9	$\prod_{k=1,k\neq j}^{m}(z-z_k)$
8	$\sum_{\mu_1,\ldots,\mu_r=1,2,3}$
8	$(\lambda_1+\lambda_2+\lambda_3)^{s-1}$
8	$\mu_1,\ldots,\mu_r=1,2,3$
7	$\frac{\zeta\centerdot e\wedge\bar{\zeta}\centerdot e^*}{\vert\zeta\vert^2}$
6	$\frac{1}{4}\centerdot\frac{n-2}{n-1}$
6	$\sum_{l_1,\ldots,l_{m-1}=1}^{\infty}$

40 (Sz: 16to20)	
#	Expr
9	$\left(X_{ij}, -X_{jk}; \frac{z_{ji}}{z_{ki}}\right)$
7	$(w-z_j)\prod_{k=1,k\neq j}^{m}(z_j-z_k)$
7	$\left(\frac{q_{k+1}+q_k}{2}, \frac{p_{k+1}+p_k}{2}\right)$
6	$\prod_{s=1,s\neq j}^{p}(w-z_s)^{nm_s}$
6	$\{(\delta_j', \epsilon_j')\}_{j=2}^m\in I^{m-1}$
6	$\left(\zeta_\alpha^b(r^\epsilon x')+\epsilon v_\alpha^b(r^\epsilon x', 0)\right)$
6	$\sum_{\{(\delta_j', \epsilon_j')\}_{j=2}^m\in I^{m-1}}$
5	$\prod_{k=1,k\neq j}^{p}(z_j-z_k)^{m_k}$
4	$\frac{g_j(w)}{\prod_{s=1,s\neq j}^{p}(w-z_s)^{nm_s}}$
4	$(\alpha-\gamma+1, \beta-\gamma+1, 2-\gamma; z)$

41 (Approximations and expansions)

41 (Sz: 2)	
#	Expr
1161	-1
632	f'
610	dt
560	L^2
441	x_i
363	x_1
308	$\sqrt{2}$
306	m_0
301	$2k$
300	a_1
289	F_1
271	t^2
251	t_i
250	b_1
246	s_n

41 (Sz: 3)	
#	Expr
840	$\frac{1}{2}$
561	$i = 1$
499	$n + 1$
453	$n - 1$
445	$[a, b]$
408	$j = 1$
387	$\int_a^b$
333	$b - a$
314	$a + b$
290	$\frac{1}{4}$
286	$N - 1$
277	$i + 1$
263	$k = 0$
256	$i = 0$
239	$k - 1$

41 (Sz: 4)	
#	Expr
169	x_{i+1}
91	$\lim_{n\to\infty}$
75	t_{i+1}
74	$(b-a)^2$
65	$-1/2$
62	a_{t-1}
61	a_{p+1}
60	$\frac{1}{\sqrt{2}}$
57	$3a + b$
48	$a + 3b$
47	$A_{i,j}$
45	s_{n+1}
43	$F^*_{\Omega T}$
42	γ_{n+2}
40	$w^N = z$

41 (Sz: 5)	
#	Expr
310	$\frac{a+b}{2}$
214	$\sum_{i=1}^{n}$
174	$\frac{1}{b-a}$
115	$\sum_{j=1}^{n}$
97	$\sum_{k=0}^{n}$
66	$\}_{n=0}^{\infty}$
65	$\sum_{n=0}^{\infty}$
65	$\sum_{s=0}^{\infty}$
60	$[a, b], \infty$
55	$([a,b]; X)$
54	$\sum_{k=0}^{\infty}$
50	$\sum_{k=1}^{\infty}$
49	$\sum_{k=1}^{n}$
45	$\prod_{j=1}^{n}$
45	$\sum_{m=1}^{\infty}$

41 (Sz: 6)	
#	Expr
57	$\frac{3a+b}{4}$
48	$\frac{a+3b}{4}$
44	$(q+1)^{\frac{1}{q}}$
35	$n + 2k + 1$
30	$e^{-\pi i/4}$
23	$\|f - \ell f'\|_\infty$
22	$\frac{2a+b}{3}$
22	$\frac{a+2b}{3}$
20	$n + 3k + 1$
18	$b_{n,k,q}$
18	$(b-a)^{\frac{1}{q}}$
17	$(q+1)^{1/q}$
17	$(f; I_n, \xi)$
16	$(\xi_i - x_i)^2$
16	$w, w' \in W$
16	$f_{\widetilde{V}_{N-1}}$
14	$(\Upsilon_{f,\ IN} \bigcup \Xi_f)$
12	$t^3 - {t_i}^3$

41 (Sz: 7)	
#	Expr
71	$(a, b; c; z)$
61	$\sum_{i=0}^{n-1}$
36	$[x_i, x_{i+1}]$
34	$\sum_{i=1}^{n-1}$
28	$\sum_{i=0}^{N-1}$
25	$\left[a, \frac{a+b}{2}\right]$
25	$\dim X/2 - \delta$
24	λ_0, λ_{t+1}
24	$\sum_{j=0}^{N-1}$
23	$x_i + x_{i+1}$
21	z^{n+2k+1}
20	$x - \frac{a+b}{2}$
19	$\int_{t_i}^{t_{i+1}}$
19	$\sum_{k=1}^{n-1}$
19	$x - \frac{a+b}{2}$
18	$\sum_{k=0}^{n-1}$
17	$[x, a + b - x]$
17	$[a + b - x, b]$
16	$(x_{i+1} - \xi_i)$

41 (Sz: 8)	
#	Expr
16	$\nu \in Y^\vee / pY^\vee$
14	$(x_{i+1} - \xi_i)^2$
14	$\int_a^b w(t)dt$
12	$\left(I - \bar{\lambda} S_0\right)^{-1}$
12	$\frac{t^3 - {t_i}^3}{3}$
10	$\lvert u(x) - u(x_0)\rvert$
10	$\nu \in Y^\vee / cY^\vee$
10	$\frac{1}{(q+1)^{1/q}}$
10	$h_{\lambda_0, \lambda_{t+1}}$
10	$L_{S^\mu}^{\delta+\mu-0}$
10	$(b-a)^{1+1/q}$
9	$\left(P_i b + \bar{P}_i a\right)$
9	$\sin^{2-n-a_\epsilon} g$
9	$T^{m_h^{p+l+1}}$
9	$-x(e^{-u}+u)$
9	$T^{m_{i'}^{\tilde{b}-l}}$
8	$\frac{1}{2} - \frac{\sqrt{2}}{8}$

41 (Sz: 9)	
#	Expr
22	$\frac{x_i + x_{i+1}}{2}$
16	$\sum_{\nu \in Y^\vee / pY^\vee}$
13	$\frac{f(a)+f(b)}{2}$
11	$(a, b-1; c; z)$
11	$(a, b+1; c; z)$
11	$(a-1, b; c; z)$
11	$(a+1, b; c; z)$
11	$\frac{1}{u(b)-u(a)}$
10	$\sum_{\nu \in Y^\vee / cY^\vee}$
10	$\left(F_{\Omega T}^* F_{\Omega T}\right)^{-1}$
10	$[x_i, x_{i+1}], 1$
10	$w_1, \ldots, w_n \in W$
10	$[x_i, x_{i+1}], p$
10	$\frac{\nu+n-j}{} - N$
9	$\left\lvert \sum_{i=1}^m p_i \alpha_i \right\rvert$
9	$[x_i, x_{i+1}], \infty$
9	$e^{-x\left(e^{-u}+u\right)}$
9	$\frac{bB-aA}{B-A}$
8	$T_{\lambda_0, \lambda_{t+1}}^C$

41 (Sz: 10)	
#	Expr
26	$-\sum_{i=1}^h m_i P_i$
10	$\sum_{w_1, \ldots, w_n \in W}$
9	$\left\lvert \sum_{i=1}^n p_i \alpha_i \right\rvert^2$
8	$\frac{\log w(t)}{1+t^2}$
7	$\frac{\sin(\omega m n)}{\sin(\omega m)}$
6	$\nu_n \in Y^\vee / \alpha_n Y^\vee$
6	$\gamma_{n+1} - \gamma_{n+2} z$
6	$\left\lvert t - \left(P_i b + \bar{P}_i a\right)\right\rvert$
6	$L_n(F(t))(t) - F(t)$
6	$\nu_1 \in Y^\vee / \alpha_1 Y^\vee$

41 (Sz: 11to15)	
#	Expr
20	$\frac{x - \frac{a+b}{2}}{b-a}$
15	$\left(\frac{x - \frac{a+b}{2}}{b-a}\right)^2$
12	$(\kappa \lvert p \rvert)^{l/2} vol(Y^\vee)$
11	$(\kappa \lvert c \rvert)^{l/2} vol(Y^\vee)$
10	$(-\lambda)^{\frac{\nu+n-j}{m} - N}$
10	$\left\lvert \alpha_i - \sum_{j=1}^n p_j \alpha_j \right\rvert$
9	$\frac{\frac{a+b}{2} - x}{b-a}$
9	$i = 1, \ldots, m, l = 1, \ldots, m$
8	$\left(p, \frac{1}{2}p + \frac{1}{2}q\right)$
8	$\left\lVert y_i - \sum_{j=1}^n p_j y_j \right\rVert$

41 (Sz: 16to20)	
#	Expr
23	$\left\lvert f(x) - \frac{1}{b-a} \int_a^b f(t)dt \right\rvert$
21	$\left(x_i, P_i b + \bar{P}_i a, x_{i+1}\right)$
11	$\left[\frac{1}{4} + \left(\frac{x - \frac{a+b}{2}}{b-a}\right)^2\right]$
8	$(b_1 + b_3 + b_4 - a_3 - a_4 - a_5)$
8	$(b_2 + b_3 + b_4 - a_3 - a_4 - a_5)$
7	$\left\langle \sum_{i=1}^n p_i x_i, \sum_{i=1}^n p_i y_i \right\rangle$
7	$(\epsilon; g \lvert b; (\alpha_1, \beta_1), \ldots, (\alpha_n, \beta_n))$
6	$\frac{f\left(\frac{3a+b}{4}\right) + f\left(\frac{a+3b}{4}\right)}{2}$
6	$g_{\lambda_0, \lambda_{t+1}}^{a_{t-1}, a_t, \kappa}$
6	$f\left(\frac{3a+b}{4}\right) + f\left(\frac{a+3b}{4}\right)$

42 (Fourier analysis)

42 (Sz: 2)	
#	Expr
6402	-1
5251	L^2
1995	dx
1852	x_0
1830	ξ_1
1738	R^n
1649	$\widehat{f}$
1365	ξ_2
1292	$2n$
1290	(x,y)
1250	x_1
1086	R^d
1052	L^p
1048	m_0
990	dt

42 (Sz: 3)	
#	Expr
3528	$\frac{1}{2}$
2251	$1/2$
2040	$n-1$
1303	$n+1$
1118	$j=1$
947	$i=1$
773	$k-1$
739	$k=1$
706	i,j
704	$k+1$
642	$i \in I$
570	$j=0$
523	$N-1$
505	$\frac{1}{4}$
494	$\lvert x-y\rvert$

42 (Sz: 4)	
#	Expr
860	$-1/2$
331	$-\frac{1}{2}$
258	$\lim_{n\to\infty}$
253	$\sum_{i\in I}$
219	$\frac{1}{\sqrt{2}}$
187	$\int_{-\infty}^{\infty}$
173	$1,\,2$
165	2^{n-1}
158	$2n+1$
154	$)^{1/2}$
153	$L^2(R^n)$
147	$\frac{1}{2\pi}$
127	$\mu \le \nu_0$
119	2^{k+1}
117	$2n-1$

42 (Sz: 5)	
#	Expr
753	$(t,\,\cdot\,)$
379	$(s,\,\cdot\,)$
170	$\rangle^{-1/2}$
148	$\sum_{k=1}^{\infty}$
133	$\sum_{j=1}^{n}$
131	$(1-\Delta)^{-1}$
110	$L^{1,\,2}$
93	$\prod_{j=1}^{n}$
92	$\sum_{k=1}^{n}$
92	$\sum_{i=1}^{n}$
92	$i,j=1$
91	$\left(R^d,h_\kappa^2\right)$
91	$\frac{d-1}{2}$
90	b,m,N
88	$B_\nu^{p,q}$

42 (Sz: 6)	
#	Expr
54	$\sum_{k=-\infty}^{\infty}$
50	$n-\alpha+2d$
50	$\pi(f)S\varphi'$
50	$L^2(R^3\backslash K)$
49	$comp^{-1}$
47	$\int_{\rho\in SO(d)}$
47	$\lVert f\rVert_{B_\nu^{p,q}}$
46	M_{p_1,p_2}
45	$\sum_{l=1}^{L}$
45	(du,d^2u)

42 (Sz: 7)	
#	Expr
104	$H_{atb}^{1,\infty}$
74	$j_1,j_2 \ge 0$
64	$L^{1,\,2}(R^n)$
59	$H_{atb}^{1,p}$
54	$1,j_1,m_1$
54	$\sum_{i=0}^{N-1}$
50	$1,\frac{1}{2}+\epsilon$
49	R_{S_1,S_2}^*
47	$k_1,\cdots,k_m$
41	$\sum_{l=0}^{N-1}$

42 (Sz: 8)	
#	Expr
74	$\sum_{j_1,j_2\ge 0}$
53	ϕ_{1,j_1,m_1}
53	$H_{atb}^{1,\infty}(\mu)$
52	$(1+s+\lvert y\rvert)^{1+\mu}$
48	$H_{atb}^{1,p}(\mu)$
39	n_1,n_2,n_3
35	$i\in I, j\in J_i$
33	$\Sigma_{k_1,\cdots,k_m}$
29	$(P_{m_0}\bigcup\cdots\bigcup P_m)$
28	$\lVert u\rVert_{L^{1,\,2}(R^n)}$

42 (Sz: 9)	
#	Expr
68	$\lvert\alpha\rvert+\mu \le N_0+\nu_0$
49	$[t_0-\delta,t_0+\delta]$
33	$\{x\colon N(x)\in\omega_{Q_2}\}$
28	T_{n_1,n_2,n_3}
27	$0\le j,k,l\le 3$
27	$\frac{1}{\lvert y\rvert^{n-\alpha+2d}}$
25	$L^2([0,t]\times R^3\backslash K)$
22	$\{0,1,\cdots,N-1\}$
22	$H_{atb}^{1,p}(\mu)^*$
21	$\lVert Z^\alpha u'(t,\,\cdot\,)\rVert$

42 (Sz: 10)	
#	Expr
33	$\chi_{\{x\colon N(x)\in\omega_{Q_2}\}}$
21	$k\colon\ J_k\subseteq 3I_t$
19	$\chi_{\{x\colon N(x)\in\omega_{P_2}\}}$
19	$\sum_{0\le j,k,l\le 3}$
19	$\lVert\Gamma^\alpha u'(t,\,\cdot\,)\rVert_2$
18	$\lVert\phi_{1,j_1,m_1}\rVert_{L^2}$
18	$2,j_2,m_2,n_2$
18	$m_1,j_1,j_2\ge 0$
18	$\lVert\chi_1\phi_{1,j_1,m_1}\rVert$
18	$\Omega_{T_{n_1,n_2,n_3}}$

42 (Sz: 11to15)	
#	Expr
33	$\lvert\alpha\rvert + \mu \leq N_0 + \nu_0 + 1$
30	$\left\lVert L^{\mu}\partial^{\alpha}u'(t,\,\blacksquare\,)\right\rVert$
25	$\left(\frac{t}{t+\lvert x-y\rvert}\right)^{n\lambda/2}$
22	$\left\lVert L^{\mu}\partial^{\alpha}u'(t,\,\blacksquare\,)\right\rVert_2$
21	$\frac{N^{\frac{d+1}{2}}}{\lvert x\rvert^{\frac{d-1}{2}}}$
19	$e^{-i2\pi\nu N^2\left(t-\frac{\lvert x\rvert}{2\nu N}\right)^2}$
19	$-i2\pi\nu N^2\left(t-\frac{\lvert x\rvert}{2\nu N}\right)^2$
18	$\sum_{m_1,j_1,j_2\geq 0}$
18	$\left\lVert\chi_1\phi_{1,j_1,m_1}\right\rVert_{L^2}$
17	ϕ_{2,j_2,m_2,n_2}

42 (Sz: 16to20)	
#	Expr
32	$X^{1,\frac{1}{2}+\epsilon}_{[t_0-\delta,t_0+\delta]}$
11	$N_1, N_2, N_3; H; L_1, L_2, L_3$
11	$\left\lVert Iw\right\rVert_{X^{1,\frac{1}{2}+\epsilon}_{[t_0-\delta,t_0+\delta]}}$
10	$\left(B(p_1,\rho_1)\setminus G_{\kappa}, dx, p_2\right)$
10	$\left\lVert\partial^{\alpha}u'(t,\blacksquare)\partial^{\beta}u'(t,\,\blacksquare\,)\right\rVert$
10	$\left\lVert\partial^{\alpha}u'(t,\blacksquare)\partial^{\beta}u'(t,\,\blacksquare\,)\right\rVert_2$
9	$\left\lVert\langle x\rangle^{-1/2}L^{\nu}Z^{\alpha}u'\right\rVert_{L^2(S_t)}$
9	$X^{1,-\frac{1}{2}+2\epsilon}_{[t_0-\delta,t_0+\delta]}$
9	$\left\lVert\langle x\rangle^{-1/2}L^{\nu}\partial^{\alpha}u'\right\rVert_{L^2(S_t)}$
9	$X_{N_1,N_2,N_3;H;L_1,L_2,L_3}$

43 (Abstract harmonic analysis)

43 (Sz: 2)	
#	Expr
3590	-1
1981	L^2
592	$\widehat{G}$
589	L^1
560	L^p
541	(x,y)
511	ij
508	x_n
478	m_0
468	W_0
435	p'
425	x_0
384	i_1
382	x_1
379	L^∞

43 (Sz: 3)	
#	Expr
709	$\frac{1}{2}$
476	$n+1$
472	$1/2$
456	$n-1$
394	$i=1$
311	$N-1$
264	i,j
247	x^{-1}
239	$j=1$
227	$n=1$
207	u,v
186	WAP
174	$k=1$
170	$\frac{1}{4}$
169	$n\to\infty$

43 (Sz: 4)	
#	Expr
188	$-1/2$
142	$\lim_{n\to\infty}$
111	$\frac{1}{\sqrt{2}}$
108	$\sum_{k\in K}$
90	$\sum_{i\in I}$
69	$e_{\lambda,i}$
66	$w^N=z$
65	$F_{p,n}$
60	$\sum_{g\in G}$
53	dm_D
52	$A_{i,j}$
52	$(\sigma, r\omega)$
49	(H_1,H_2)
49	$t\Delta/2$
48	$2n+1$

43 (Sz: 5)	
#	Expr
123	$\sum_{n=1}^{\infty}$
84	C^*_{red}
78	$\sum_{i=1}^{n}$
59	$\sum_{i=1}^{\infty}$
58	$(X:\tau)$
56	$\sum_{k=1}^{n}$
46	P,δ,u
46	$\sum_{w^N=z}$
45	$\sum_{\pi\in\widehat{G}}$
40	$i,j=1$
39	$e^{-(z\mid x)}$
39	$e^{-(z\mid s)}$
38	$r(y)=x$
37	$r,s=1$
36	$\sum_{j=1}^{n}$

43 (Sz: 6)	
#	Expr
36	$\sum_{r(y)=x}$
32	$\Xi_{P,\delta,u}$
28	$e^{-\frac{\Delta_k}{2}}$
27	$F^{-1}_{u,v}$
25	(G^v_u,λ^v_u)
25	$w'\bigotimes h_{w'}$
24	$D_{H,\chi,\,\mathrm{mod}}$
24	$q^{1/2}_{\alpha^\vee}$
21	$-\frac{n}{2}+l$
19	$w^{0,\bar{s}}_{\epsilon}$

43 (Sz: 7)	
#	Expr
49	$\sum_{i=0}^{N-1}$
27	$k; m_1, m_2$
25	$\sum_{j=0}^{N-1}$
22	$\Pi^{\sigma_n}_{\lambda_n,\omega}$
21	$\sum_{k=0}^{N-1}$
21	$1/p-1/q$
19	$(\lambda, k, \,.\,)$
17	$\sum_{r,s=1}^{n}$
17	$\sum_{k,\ell=0}^{\infty}$
17	$(\psi,\,\pi(x)\varphi)$

43 (Sz: 8)	
#	Expr
23	$2\lambda, e_i\bar{e}_j$
20	$n^{1/p-1/q}$
18	$\Pi^{\sigma_n}_{\lambda_n,\omega_n}$
14	$(\psi,\,\pi(x)\,\varphi)$
13	$\sum_{i,j,k,l}$
12	$q^{1/2}_{\alpha^\vee/2}$
12	$\left(I-\bar{\lambda}S_0\right)^{-1}$
11	$\sum_{i,k,j,l}$
11	$(w^{0,\bar{s}}_{\epsilon},0,0)$
11	$\Psi_{k,+\ell,-m}$

43 (Sz: 9)	
#	Expr
15	$2,\bar{e}_i,\bar{e}_j$
12	$e_{2\lambda,e_i\bar{e}_j}$
12	$(\Xi_{P,\delta,u},\ End(V_\Xi))$
11	$f_{2\lambda,e_i\bar{e}_j}$
11	$\beta\in(A^*_\theta)^{-1}Z^d$
11	$\{0,1,\cdots,N-1\}$
10	$e^{i\alpha(\nu+1)}-1$
9	$(\nu+\,\centerdot\,:x)$
9	$\frac{1}{1-q^{2(\nu+1)}}$
9	$\partial\omega_{\lambda,x,y,t}$

43 (Sz: 10)	
#	Expr
15	$C_{2,\bar{e}_i,\bar{e}_j}$
11	$\left(\sum_{k\in K}\|B_k\|^2\right)^{1/2}$
10	$(a_1x+\cdots+a_nx^n)$
10	$\sum_{\beta\in\left(A^*_\theta\right)^{-1}Z^d}$
9	$u=(u_1,\ldots,u_p)\in AP(s)$
8	$\left(\Gamma, d\mu_\Gamma; H_{\tau(\sigma)}\right)$
6	$\chi_{\{m_0\circ\widehat{r}^{-1}\neq 0\}}$
6	$\frac{\theta(1-\lvert z\rvert)}{1+\gamma_n}$
6	$\frac{(-i)^{m+1}}{(m+1)!}$
6	$(m_j-1+\nu-(j-1))$

43 (Sz: 11to15)	
#	Expr
12	$\left(R_{\alpha(\xi)\vartheta(h)^{-1}\alpha(\xi')^{-1}}\varphi\right)$
12	$R_{\alpha(\xi)\vartheta(h)^{-1}\alpha(\xi')^{-1}}$
10	$k \in {}_{+},\ a \in \Gamma_N^k$
10	$\frac{e^{i\alpha(\nu+1)}-1}{i(\nu+1)}$
10	$\left(L_{\alpha(\xi)}R_{\alpha(\xi')^{-1}}\varphi\right)$
9	$(chv - chR)^{-\frac{n}{2}+l}$
9	$\omega_x((\psi,\ \pi(x)\,\varphi))$
9	$\sum_{u=(u_1,\ldots,u_p)\in AP(s)}$
7	$\frac{e^{-\lvert y\rvert^2/t}}{(\pi t)^{d/2}}$
7	$(e_{i_1 i_1'} \bigotimes \cdots \bigotimes e_{i_k i_k'})$

43 (Sz: 16to20)	
#	Expr
9	$\left(\left(R_{\alpha(\xi)\vartheta(h)^{-1}\alpha(\xi')^{-1}}\varphi\right)\lvert_N\right)$
7	$\left(b_1\bar{b}_1, \cdots, b_m\bar{b}_m, c\bar{c}\right)$
5	$\left(p_{i_1 i} p_{i_2 i_2'} \cdots p_{i_k i_k'}\right)h'$
5	$\left(p_{i_1 i} p_{i_2 i_2'} \cdots p_{i_k i_k'}\right)$
5	$(p_{i,j} p_{i_1,i_1} \cdots p_{i_k,i_k})$
5	$\left(p_{ji} p_{i_1 i_1'} \cdots p_{i_k i_k'}\right)h'$
5	$(p_{i,j} p_{i_1,i_1} \cdots p_{i_k,i_k})\Omega$
5	$\Phi(e_{i_1 i_1'} \bigotimes \cdots \bigotimes e_{i_k i_k'})h'$
5	$\left(p_{ji} p_{i_1 i_1'} \cdots p_{i_k i_k'}\right)$
5	$\frac{(-1)^{r-i}}{(d-r)!i!(r-i)!}$

44 (Integral transforms, operational calculus)

44 (Sz: 2)	
#	Expr
646	-1
440	R^N
394	dx
356	R^n
297	L^2
216	$\widehat{f}$
212	$2n$
204	dt
188	x_1
184	(x,y)
171	dy
151	Γ_m
149	$2k$
147	x^2
140	f_1

44 (Sz: 3)	
#	Expr
442	n, m
281	$\frac{1}{2}$
259	$1/2$
226	$\int_0^\infty$
213	$n-1$
144	p, n
134	$n+1$
120	$j=1$
92	$\nu+1$
90	ξ_0^2
90	$\int_{R^N}$
86	ϵ, ρ
82	ξ_1^2
82	$i=1$
81	$n=0$

44 (Sz: 4)	
#	Expr
80	$r^{1/2}$
65	$F_{p,n}$
63	$\int_{-\infty}^{\infty}$
55	$-1/2$
52	$(\sigma, r\omega)$
46	$G_{p,n}$
41	$a^{1/2}$
39	$-(z\|x)$
32	$\int_{SO(n)}$
32	$\sigma_{n,m}$
30	$\frac{1}{2\pi}$
30	$\gamma_{n,m}$
29	V_k^{-1}
29	$\alpha \in R_+$
27	$\widehat{f}^k$

44 (Sz: 5)	
#	Expr
112	$n-k, m$
95	$n, n-k$
66	$(\partial^\circ g)^{-1}$
61	$\sum_{n=0}^{\infty}$
41	$\sum_{m=1}^{\infty}$
39	$e^{-(z\|x)}$
36	$(\sigma, \omega; r)$
35	$\sum_{k=1}^{\infty}$
33	$\frac{1}{2\pi i}$
31	$(\sigma, \omega; \lambda)$
30	$\prod_{j=1}^{n}$
27	$-\Delta_k/2$
23	$(x', x")$
22	$\sum_{j=1}^{n}$
22	$\sum_{k=0}^{\infty}$

44 (Sz: 6)	
#	Expr
78	$V_{n,n-k}$
24	$\left\{(\partial^\circ g)^{-1}(y)\right\}$
23	$e^{-\Delta_k/2}$
17	$\sum_{k=-\infty}^{\infty}$
15	$\sigma \subset \eta \subset \omega^\perp$
15	$i(Arg(z) + N\alpha)$
15	$e^{-\|x\|^2/2}$
14	$\sigma_{n,n-k}$
12	$w^T x - K_0$
12	$K' \in L_{d_1}$

44 (Sz: 7)	
#	Expr
39	$\int_{V_{n,n-k}}$
19	$(x, \xi; y, \eta)$
18	$\int_{\epsilon I_m}^{\rho I_m}$
18	$(y, x, g(x))$
16	$(\alpha, \beta; \mu; x)$
15	$\eta_1^2 - \eta_e^2$
15	$\int_{\sigma \subset \eta \subset \omega^\perp}$
14	$(j = 1, \ldots, n)$
12	$\{e_{i\lambda} \| \lambda \in S\}$
12	$\frac{1}{\gamma_{n,m}(\alpha)}$

44 (Sz: 8)	
#	Expr
24	n_1, n_2, n_3
14	$\frac{1}{\sigma_{n,n-k}}$
12	$\sum_{i,j,k,l}$
9	$\|\rho\|^{-\frac{1}{2}-\epsilon_0}$
8	$C^{l+\langle\epsilon\rangle, x}$
7	$e^{\psi(x)-\psi(y)}$
7	$\|m_0(te^{2\pi ij})\|$
7	$\left(w_0^T x - K_0\right)_+$
7	$1/2 - \alpha + \sqrt{\lambda}$
7	$1/2 - \alpha + \sqrt{\lambda}$

44 (Sz: 9)	
#	Expr
19	$(x, y, B^\circ g(y))$
14	T_{n_1,n_2,n_3}
10	$e^{i\alpha(\nu+1)} - 1$
9	$\frac{1}{1-q^{2(\nu+1)}}$
9	$\|x_\cdot - \gamma_\cdot^{xy}\|_{L^\infty}$
8	$\left\|\langle f_2, \Phi_{\vec{P_2}}\rangle\right\|$
7	$\alpha_1, \ldots, \alpha_{n-1}$
7	$\|m_0(te^{2\pi ij})\|^2$
6	$f(x) - f(\sigma_\alpha x)$
6	$\xi_0^2 \xi_1^2 \eta_1^2$

44 (Sz: 10)	
#	Expr
9	$\Omega_{T_{n_1,n_2,n_3}}$
8	$\frac{\log w(t)}{1+t^2}$
7	$\frac{1}{iy} + \frac{iy}{R^2}$
6	$\frac{1-q}{1-q^{\nu+2}}$
6	$\|I_m + x'x\|^{-\lambda/2}$
6	$\frac{(-i)^{m+1}}{(m+1)!}$
5	$M_{\Gamma_k(s,\,,z)}$
5	$b_{n,n-1,n-1}$
5	$\left(te^{2\pi ij/(\nu+1)}\right)$
5	$x^n - 1 - n(x-1)$

44 (Sz: 11to15)	
#	Expr
12	$[(\lvert z\rvert+k)\exp\left(i(Arg(z)+N\alpha)\right)]$
10	$\frac{e^{i\alpha(\nu+1)}-1}{i(\nu+1)}$
6	$\left(\frac{1}{4}\centerdot\frac{n-2}{n-1}\right)$
6	$\bigcup_{d_2\leq d_1}P_{K'}^{d_2}$
5	$\left\lvert m_0\left(te^{2\pi ij/(\nu+1)}\right)\right\rvert$
5	$\int_0^{Nx}\frac{\sin t}{t}dt$
5	$\frac{\pi^{nm/2}}{\Gamma_m(n/2)}$
5	$\frac{\left\langle f_j,\Phi_{K'}^j\right\rangle}{\lvert K'\rvert^{1/2}}$
5	$\left\lvert m_0\left(te^{2\pi ij/(\nu+1)}\right)\right\rvert^2$
5	$(G(p,n)\setminus G_{p,n}\times\{0\})$

44 (Sz: 16to20)	
#	Expr
8	$\xi_1^2\eta_0^2+\xi_0^2\eta_1^2-\xi_0^2\eta_0^2$
8	$\vec{n_1},\vec{n_2},\vec{n_3},\vec{k},\vec{l}$
6	$\left(\alpha_1+\frac{1}{\alpha_1},\ldots,\alpha_N+\frac{1}{\alpha_N}\right)$
5	$\left\lvert\left\langle\frac{\left\langle f_j,\Phi_{K'}^j\right\rangle}{\lvert K'\rvert^{1/2}},\Phi_{P"_j}\right\rangle\right\rvert$
5	$(x_1,\ldots,x_N,x'_1,\ldots,x'_N)$
4	$T_{\vec{n_1},\vec{n_2},\vec{n_3},\vec{k},\vec{l}}$
4	$\left(u(\sigma)^{-1}\centerdot\sigma_0,\ ru(\sigma)^{-1}\centerdot\theta\right)$
4	$\frac{\pi^{km/2}\Gamma_m((\lambda-k)/2)}{\Gamma_m(\lambda/2)}$
4	$\frac{\left(q^{2\alpha+2};q^2\right)_\infty}{\left(q^2;q^2\right)_\infty}$
4	$\alpha_1\frac{\partial}{\partial\xi_1}+\cdots+\alpha_d\frac{\partial}{\partial\xi_d}$

45 (Integral equations)

45 (Sz: 2)	
#	Expr
1148	-1
394	m_0
332	L^p
323	L^2
230	(s,t)
220	L^∞
213	q_k
193	λ_c
186	$\widehat{k}$
156	L^1
151	(t,R)
149	(t,x)
147	$[0,T]$
146	Δ_τ
145	f_ϵ

45 (Sz: 3)	
#	Expr
292	$\int_0^t$
229	$\frac{1}{2}$
206	$k+1$
171	q_k^d
146	$n-1$
142	$N \times N$
131	Δ_τ^d
131	$k=1$
128	$n+1$
126	n,k
118	$t-\tau$
111	$\lvert\ln\epsilon\rvert$
101	$1/2$
101	p_k^d
93	∂_x^β

45 (Sz: 4)	
#	Expr
97	p_{k+1}
63	$-1/2$
61	$I_{n,k}$
49	$\lim_{n\to\infty}$
48	$-2/3$
47	$\int_{-\infty}^{\infty}$
46	$n,k\ell$
45	$-1/3$
45	$\Gamma(t,R)$
43	$\ln\lvert\ln\epsilon\rvert$
41	$(1-M^2)$
39	$\Delta(t,R)$
38	$L^{p(\cdot)}$
35	q_{k+1}
34	$B^{N\times N}$

45 (Sz: 5)	
#	Expr
44	$\widehat{k+np}$
43	$2N \times 2N$
39	$\chi_{\Gamma(t,R)}$
38	$(\ln\lvert\ln\epsilon\rvert)^m$
37	$\chi_{\Delta(t,R)}$
29	$\frac{1}{s-t}$
28	$s-t\to\infty$
22	$(\alpha+k)^{-1}$
22	$\}_{k=1}^{\infty}$
18	$\sum_{j=1}^{n}$
18	$1-C_{v_\theta}$
18	$A_{L^{p(\cdot)}}$
17	$\sum_{n=1}^{\infty}$
17	$(x-u,\lambda)$
16	$\omega_{1,k}^d$

45 (Sz: 6)	
#	Expr
33	(q_k,p_{k+1})
26	$I_0^{-2/3}$
25	$\omega_{\widehat{k+np}}$
25	$(1-C_v)^{-1}$
22	$\sum_{k=1}^{N_n}$
22	$I_0^{-1/3}$
20	$\left(q_k^d,p_k^d\right)$
19	$(T)^{2N\times 2N}$
17	$\lVert u_\epsilon(\tau,\cdot)\rVert_{L^p}$
16	$\lVert W_\epsilon(\tau,\cdot)\rVert_{L^q}$

45 (Sz: 7)	
#	Expr
44	$\sum_{k=0}^{n-1}$
34	$(t-\tau,x-\cdot)$
31	$(t-\tau,x-y)$
20	$C^1,(L^p,L^q)$
18	$(0,T;L_2^0)$
15	$q_{k+1}+q_k$
12	$t_{n,k\ell}^{ux}$
12	$(q_k,\Delta_\tau q_k)$
12	$p_{k+1}+p_k$
11	$\widehat{k}+(n-1)p$

45 (Sz: 8)	
#	Expr
11	$(1-u^4)^{-1/2}$
10	$I_{n,k}\bigcap I=\emptyset$
10	$G_{C^1,(L^p,L^q)}$
9	$\omega_{\widehat{k+(n-1)p}}$
8	$N_{C^1,(L^p,L^q)}$
8	(x_k,p_{k+1},u_k)
7	$\frac{c}{(1-\rho)^{1/2}}$
7	$\left\lvert\omega_{\widehat{k+np}}(t)\right\rvert^2$
7	$\left\lvert\omega_{\widehat{k+np}}(0)\right\rvert^2$
7	$(C_k,-D_2S_k)$

45 (Sz: 9)	
#	Expr
15	$\frac{q_{k+1}+q_k}{2}$
14	$\frac{(x-y)^2}{1-M^2}$
12	$\frac{p_{k+1}+p_k}{2}$
11	$\frac{a(t-0)}{a(t+0)}$
11	$\frac{\Delta_\tau q_k}{\Delta_\tau t_k}$
9	$\left(x_k^d,p_k^d,u_k^d\right)$
8	$\left((n+1)^2B_n^k(s,t)\right)$
8	$\left\lVert\partial_x^\beta W_\epsilon(t,\cdot)\right\rVert_{L^q}$
8	$\left\lVert\partial_x^\beta u_\epsilon(t,\cdot)\right\rVert_{L^p}$
8	$\frac{1+r^2}{1-r^2}$

45 (Sz: 10)	
#	Expr
20	$\left(q_k^d,\Delta_\tau^d q_k^d\right)$
9	$\lvert\ln\epsilon\rvert^{n(1-1/p)}$
8	$\lVert E_{n\epsilon}(t-\tau,x-\cdot)\rVert$
6	$\sup_{t\le T}(\phi(Z_2(t)))^p$
5	$\frac{x^2}{1-M^2}+z^2$
5	$\sup_{R\in(0,2d_t]}$
5	$\left(-p,\widehat{k}+(n+1)p\right)$
5	$C_{n,a_n,\ldots,a_1}$
4	$(4\pi(t-\tau))^{-n/2}$
4	$\frac{\log(Q_tw)(x)}{\log x}$

45 (Sz: 11to15)	
#	Expr
14	$\frac{(x-y)^2}{1-M^2}+z^2$
14	$\left(\frac{(x-y)^2}{1-M^2}+z^2\right)^{\frac{1}{2}}$
9	$(q_{k-1},\Delta_\tau q_{k-1})$
8	$\left\|\partial_x^\beta E_{n\epsilon}(t-\tau,x-\centerdot)\right\|_{L^1}$
8	$\left\|E_{n\epsilon}(t-\tau,x-\centerdot)\right\|_{L^1}$
8	$\left\|\partial_x^\beta E_{n\epsilon}(t-\tau,x-\centerdot)\right\|$
7	$\left(t^{ux}_{n,k\ell},t^{uy}_{n,k\ell}\right)$
7	$\left\|(1-C_v)^{-1}\right\|_{L^p\to L^p}$
6	$e^{i(\lambda-\sigma_1)\frac{\pi}{\sigma_2-\sigma_1}}$
6	$\frac{1}{2\pi}\log\left\|\frac{a(t-0)}{a(t+0)}\right\|$

45 (Sz: 16to20)	
#	Expr
7	$\left(\frac{q_{k+1}+q_k}{2},\frac{p_{k+1}+p_k}{2}\right)$
5	$\left(\theta,I_0+\frac{9}{10}\alpha_1^{-1}I_0^{2/3}J,\xi\right)$
5	$\left(I_0+\frac{9}{10}\alpha_1^{-1}I_0^{2/3}J,\xi\right)$
5	$\left\|\partial_x^\beta\nabla E_{n\epsilon}(t-\tau,x-\centerdot)\right\|_{L^1}$
5	$\left(MR_+^{-1}\breve{\phi}^{-1}-MR_-^{-1}\breve{\phi}^{-1}\right)$
5	$\left((1-M^2)(\omega+id(\lambda))^2+r^2(\lambda)\right)^{\frac{1}{2}}$
4	$\left(r(\lambda)\left(\frac{x^2}{1-M^2}+z^2\right)^{\frac{1}{2}}\right)$
4	$r(\lambda)\left(\frac{(x-y)^2}{1-M^2}+z^2\right)^{\frac{1}{2}}$
4	$u\left(t^{ux}_{n,k\ell},t^{uy}_{n,k\ell}\right)$
3	$\frac{\left\|w\chi_{\Gamma(t,R)}\right\|_X\left\|\chi_{\Gamma(t,R)}\right\|_{X'}}{\left\|\Gamma(t,R)\right\|}$

46 (Functional analysis)

46 (Sz: 2)	
#	Expr
24567	-1
7706	C^*
6813	L^2
5188	x_1
5003	x_i
4988	ij
4908	x_n
4621	C_0
4190	a_1
3446	x_0
3433	K_0
3222	e_i
3077	[0,1]
2942	a_n
2848	a_i

46 (Sz: 3)	
#	Expr
8371	$i=1$
6099	$\frac{1}{2}$
5232	$n+1$
5203	$n-1$
3844	$1/2$
3801	$k=1$
3212	$j=1$
2338	$i \in I$
2190	$n=1$
2154	$k-1$
1966	$k+1$
1750	i,j
1562	$n \to \infty$
1248	C_r^*
1093	$i \in F$

46 (Sz: 4)	
#	Expr
1330	$-1/2$
1022	$\lim_{n\to\infty}$
993	$\sum_{i\in F}$
570	$\sum_{i\in I}$
362	$\widehat{\Omega}_{\leq\mu}$
357	$\langle x, e_i\rangle$
312	$\lim_{k\to\infty}$
301	x_{n-1}
288	(x, y_i)
257	$-\frac{1}{2}$
233	S^{n-1}
229	$)^{1/2}$
228	$2j+1$
218	q_{n-1}
209	$\Lambda_{\chi_2'}$

46 (Sz: 5)	
#	Expr
3441	$\sum_{i=1}^{n}$
1349	$\sum_{k=1}^{n}$
957	$\sum_{j=1}^{n}$
628	$\sum_{n=1}^{\infty}$
573	$i,j=1$
503	$\sum_{i=1}^{\infty}$
412	$1 \leq i \leq n$
412	$\}_{n=1}^{\infty}$
400	$\sum_{n=0}^{\infty}$
338	$\sum_{i=1}^{m}$
329	$)_{n=1}^{\infty}$
320	$\{1, \cdots, n\}$
294	$\sum_{k=1}^{m}$
284	$_{1\leq i\leq n}$
278	(z_i, z_j)

46 (Sz: 6)	
#	Expr
178	$\left(\widehat{\Omega}_{\leq\mu}A_i\right)$
149	$\lvert\Phi_i - \phi_i\rvert^2$
94	$E(M,\tau)$
67	$\left\|\nabla^m u\right\|_{L^p(Q)}$
64	$\dim_{M\bar{\otimes}M^o}$
64	$(A)_{w-AFD}$
63	$(E^0$,E^1,d,$r)$
59	$(O_n \rtimes_{\alpha^\omega} G)$
54	$\sum_{s(e)=v}$

46 (Sz: 7)	
#	Expr
338	$\sum_{i,j=1}^{n}$
209	$\sum_{i=1}^{n-1}$
198	$1 \leq i \neq j \leq n$
169	$_{1\leq i\neq j\leq n}$
145	$\sum_{k=1}^{n-1}$
122	$\sum_{k=0}^{n-1}$
119	$(X_1$,X_2,$\cdots$,$X_n)$
95	$0 \leq s \leq t \leq T$
89	$\left\|\sum_{i=1}^{n} x_i\right\|$
84	$\sum_{j=1}^{n-1}$

46 (Sz: 8)	
#	Expr
84	$\left\|\int_a^b f(t)dt\right\|$
84	$\left(\widehat{\Omega}_{\leq\mu}A_i\right)^{4d}$
66	$e^{-A(\rho)_t^2}$
55	$\left(\widehat{\Omega}_{\leq\mu}A_i\right)^{2d}$
38	$\int_a^b \lVert f(t)\rVert dt$
35	$i \in I, j \in J_i$
31	$\Sigma_{k_1,\cdots,k_m}$
31	$\Pi_{m-1,k,p}$
31	$e^{-u_0 tD(\rho)^2}$
31	$f_{n_{j-1}}^{(j-1)}$

46 (Sz: 9)	
#	Expr
73	$\left(Z, \left(\widehat{\Omega}_{\leq\mu}A_i\right)^{4d}\right)$
59	$\left\|\sum_{i=1}^{n}\alpha_i z_i\right\|$
39	$\sum_{j=i+1}^{n-1}$
37	$\left(b^{1/2}Tb^{1/2}\right)$
34	$(D^*, \rho(z)d^2z)$
32	$\{p+1, \ldots, p+q\}$
31	$\sum_{k=1}^{n/2-1}$
31	$\sum_{k=1}^{(n-1)/2}$
29	$m-1, m-1, p$
28	$(-2)^{-\kappa(i\oplus j)}$

46 (Sz: 10)	
#	Expr
124	$\left(M, E\bigotimes\widehat{\Omega}_{\leq\mu}A_i\right)$
90	$\sum_{j=1}^{n}\lvert(z_i, z_j)\rvert$
80	$\sum_{j=1}^{n}\lvert(y_i, y_j)\rvert$
65	$\left(\sum_{i\in F}\lvert\Phi_i - \phi_i\rvert^2\right)$
52	$\left\|\sum_{i=1}^{n}\alpha_i z_i\right\|^2$
51	$\lvert\langle x,y\rangle - \langle x,e\rangle\langle e,y\rangle\rvert$
50	$\left([0,1], \left(\widehat{\Omega}_{\leq\mu}A_i\right)^{2d}\right)$
46	$\Omega(M), \Omega(M)_\infty^{fin}$
35	$\left(\sum_{i\in F}\lvert\Gamma_i - \gamma_i\rvert^2\right)$
32	$\sigma_1, \ldots, \sigma_s \in S_N$

46 (Sz: 11to15)	
#	Expr
65	$\left(\sum_{i\in F}\left\|\Phi_i-\phi_i\right\|^2\right)^{\frac{1}{2}}$
62	$(H;E_1,E_2,E_3,E_4)$
38	$\left\|\sum_{i=1}^{n}c_i(x,y_i)\right\|^2$
38	$J_{\Omega(M),\Omega(M)_{\infty}^{fin}}$
38	$\left\|\sum_{i=1}^{n}c_i(x,y_i)\right\|$
35	$\left(\sum_{i\in F}\left\|\Gamma_i-\gamma_i\right\|^2\right)^{\frac{1}{2}}$
32	$\sum_{\sigma_1,\ldots,\sigma_s\in S_N}$
30	$e_k v_k+\widetilde{e}_k\widetilde{v}_k$
27	$\sum_{i,j=1}^{n}\left\|(y_i,y_j)\right\|$
27	$\left((*_1^p,Q)*L\left(F_{1-\frac{1}{p}}\right)\right)$

46 (Sz: 16to20)	
#	Expr
24	$\left[\langle x,y\rangle-\sum_{i\in F}\langle x,e_i\rangle\langle e_i,y\rangle\right]$
20	$\omega_{f_{m_1,p_1,t_1},f_{m_2,p_2,t_2}}$
20	$f_{m_1,p_1,t_1},f_{m_2,p_2,t_2}$
20	$\left\langle\sum_{i=1}^{n}p_ix_i,\sum_{i=1}^{n}p_iy_i\right\rangle$
20	$\omega_{\Lambda_{\chi_2'}(y),J_{\chi_2}z^*\Lambda_{\chi_2'}(z')}$
20	$\left(\omega_{\Lambda_{\chi_2'}(y),J_{\chi_2}z^*\Lambda_{\chi_2'}(z')}*id\right)$
20	$\Lambda_{\chi_2'}(y),J_{\chi_2}z^*\Lambda_{\chi_2'}(z')$
20	$\left\|\langle x,y\rangle-\sum_{i\in F}\langle x,e_i\rangle\langle e_i,y\rangle\right\|$
19	$(X_1+\sqrt{\epsilon}S_1,\ldots,X_n+\sqrt{\epsilon}S_n)$
18	$\sum_{\substack{1\leq j_1,\ldots,j_{t+1}\leq f\\1<t<d}}$

47 (Operator theory)

47 (Sz: 2)	
#	Expr
14040	-1
3274	x_1
3262	L^2
2873	ij
2020	x_0
1998	x_n
1700	x_2
1653	x_i
1611	T_1
1439	i_1
1416	T_n
1366	(x,y)
1318	L^p
1308	$[0,1]$
1291	dt

47 (Sz: 3)	
#	Expr
3536	$\frac{1}{2}$
2746	$1/2$
2353	$i = 1$
2047	$n + 1$
2004	$k = 1$
1867	$n - 1$
1530	$j = 1$
1415	$k + 1$
988	$k - 1$
970	$n \to \infty$
958	$n = 1$
558	$i + 1$
550	$k = 0$
545	$j = 0$
536	$m - 1$

47 (Sz: 4)	
#	Expr
1111	$-1/2$
544	$\lim_{n\to\infty}$
308	$-\frac{1}{2}$
214	$\frac{1}{2\pi}$
210	$\lim_{k\to\infty}$
200	$h^{1/2}$
144	$[-1, 1]$
138	$A^{1/2}$
136	$\int_{-\infty}^{\infty}$
136	$H_{\alpha,0}$
131	$\lim_{t\to\infty}$
124	i_{k+1}
122	$(SU_q(2))$
118	i_{m-1}
118	$\frac{1}{\sqrt{2}}$

47 (Sz: 5)	
#	Expr
866	$\sum_{i=1}^{n}$
636	$\sum_{k=1}^{n}$
566	$(T_1,\ldots,T_n)$
475	$\sum_{j=1}^{n}$
320	$\sum_{n=1}^{\infty}$
290	$(S_1,\ldots,S_n)$
269	$\}_{n=1}^{\infty}$
220	$\sum_{k=1}^{N}$
212	$\sum_{k=1}^{\infty}$
199	$\sum_{n=0}^{\infty}$
179	$i, j = 1$
153	$\sum_{k=0}^{\infty}$
150	$\sum_{j=0}^{\infty}$
137	$\frac{1}{2\pi i}$
124	$\frac{n+1}{2}$

47 (Sz: 6)	
#	Expr
144	$H_1^{-1/2}$
84	$H_0^{-1/2}$
59	$(\iota \bigotimes \varphi_N \bigotimes \iota)$
59	$\Pi^{n_N \times n_N}$
59	$\Pi^{n_1 \times n_1}$
57	$-1/2, 1$
53	$\frac{d\mu(t)}{t}$
53	$(\nu_1; \ell_2^n)$
50	$\pi(f)S\varphi'$

47 (Sz: 7)	
#	Expr
106	$\sum_{i,j=1}^{n}$
59	$n_1, \ldots, n_N$
54	$(x_1,x_2,\ldots,x_n)$
52	$I_{H_0} - X^*X$
50	$n_1 + \cdots + n_N$
50	$u_{-1/2,1}$
49	$\sum_{j=0}^{k-1}$
47	$(x_i)_{1\le i\le m}$
45	(x', t', y)
43	$\sum_{k=1}^{n-1}$

47 (Sz: 8)	
#	Expr
51	$\log T_+ - i\pi I$
38	$1 - \frac{c}{\mu}M(\lvert t\rvert)$
36	$(H_{\alpha,0} + i)^{-1}$
34	$\frac{d\mu(t)}{1-t}$
31	$f_{n_{j-1}}^{(j-1)}$
26	$(\alpha_1,\ldots,\alpha_{n+1})^T$
24	$D_{t_j,\rho_j(t^0)}$
23	$)_{\lvert s\rvert=j \pmod l}$
21	$1 - \frac{1}{\mu}M(t)$

47 (Sz: 9)	
#	Expr
41	$\int_{c-i\infty}^{c+i\infty}$
33	$m + n + \ell - k - 1$
28	$(-2)^{-\kappa(i \oplus j)}$
27	$(H; E_1, \ldots, E_n)$
22	$(rT_1, \ldots, rT_n)$
21	$(x_{m+j})_{1\le j\le n}$
20	$\lvert t\rvert = \lvert s\rvert = j \pmod l$
20	$(\log T_+ - i\pi I)^*$
18	$\lVert T^{i_0}x\rVert \lVert x_1 + x_2\rVert$
18	$\frac{\pi}{\left[\frac{m-1}{k}\right]+2}$

47 (Sz: 10)	
#	Expr
23	$\frac{i}{\hbar}\log c \bigotimes \log a$
22	$1 - f_{n_{j-1}}^{(j-1)}$
16	$(\omega_{v,x^*w} \bigotimes \iota \bigotimes \iota)$
15	$)_{\lvert t\rvert=\lvert s\rvert=j \pmod l}$
13	$a_1!a_2!\cdots a_n!$
11	$I + H\left(\psi_{\alpha,n}^{(-1)}\right)$
11	$\left(\sum_{k\in K}\lVert B_k\rVert^2\right)^{1/2}$
11	$\left(\nu_1 \bigotimes \nu_1; \ell_2^{n^2}\right)$
11	$1 - \frac{1}{2\beta} - \frac{r}{\beta}$
11	$\frac{dt}{\tan\frac{x-t}{2}}$

47 (Sz: 11to15)	
#	Expr
62	$(H; E_1, E_2, E_3, E_4)$
29	$1 - \left(1 - \frac{c}{\mu} M(\lvert t \rvert)\right) z$
26	$(\sigma; \epsilon(1), \ldots, \epsilon(k))$
23	$e^{\frac{i}{\hbar} \log c \bigotimes \log a}$
23	$\overset{1 \leq i \leq r_v}{1 \leq v \leq f}$
22	$\left(A^{-1/2} B A^{-1/2}\right)$
18	$1 \leq j_1, \ldots, j_{t+1} \leq f$
18	$\overset{1 \leq l \leq s_v}{1 \leq v \leq f}$
18	$\left(\sigma^*_{\frac{i}{2}}(\omega)\, R \bigotimes \iota\right)$
17	$\left\lVert \sum_{k=1}^{n} \bar{x}_k \bigotimes x_k \right\rVert$

47 (Sz: 16to20)	
#	Expr
18	$\sum_{\substack{1 \leq j_1, \ldots, j_{t+1} \leq f \\ 1 \leq t \leq d}}$
18	$\overset{1 \leq j_1, \ldots, j_{t+1} \leq f}{1 \leq t \leq d}$
9	$T^{i_1 \ldots i_{l-1} i_l i_{l+1} \ldots i_k}$
9	$L_2(\nu_1 \bigotimes \nu_1) +_1 L_2(\nu_2 \bigotimes \nu_2)$
9	$[\alpha(a_i^* a_i) \bigotimes (\omega_i \bigotimes \iota)(U)(\omega_i \bigotimes \iota)(U)^*]$
9	$i_1 \ldots i_{l-1} i_l i_{l+1} \ldots i_k$
8	$(f_1(T_1, \ldots, T_n), \ldots, f_k(T_1, \ldots, T_n))$
8	$\xi_1^2 \eta_0^2 + \xi_0^2 \eta_1^2 - \xi_0^2 \eta_0^2$
8	$\left((x_i)_{1 \leq i \leq m} \colon (x_{m+j})_{1 \leq j \leq n}\right)$
8	$\left((x_i + \omega s_i)_{1 < i < m} \colon (s_i)_{1 < i < m}\right)$

49 (Calculus of variations and optimal control; optimization)

49 (Sz: 2)	
#	Expr
2026	x_0
1638	-1
1186	dt
975	dx
902	x_1
870	ij
826	t_0
685	t_1
682	x_2
677	(x,y)
663	$[0,T]$
648	R^2
642	t_2
641	ds
637	$\bar{x}$
5604	u_h

49 (Sz: 3)	
#	Expr
795	$\frac{1}{2}$
720	$n+1$
699	$n-1$
658	$k+1$
486	$i=1$
426	$i-1$
348	$1,p$
347	$k-1$
307	$1,2$
280	$i+1$
261	$s=0$
220	$p-2$
210	$j=1$
208	$\Omega \setminus K$
204	$\int_0^t$

49 (Sz: 4)	
#	Expr
332	$\frac{d}{dt}$
199	$W^{1,p}$
131	H^{n-1}
105	i_{k+1}
102	$L^{1,2}$
101	$L^{1,p}$
101	$(\Omega; R^2)$
95	p_{k+1}
91	$W^{1,\infty}$
87	$(\Omega; R^m)$
86	t_{i+1}
81	$(U; R^m)$
80	$\lim_{k\to\infty}$
73	(t_0,x_0)
69	$u_{i,\beta}$

49 (Sz: 5)	
#	Expr
132	$\frac{p-2}{2}$
120	$\sum_{i=1}^{n}$
98	$2+\alpha, I$
81	$\sum_{j=1}^{n}$
70	s_k^{i-1}
57	t_1, t_2
56	$i_1 ... i_k$
55	$1-1/M$
48	$\frac{\partial T}{\partial s}$
43	$(x, \nabla u_h)$
43	$\sum_{i=1}^{m}$
40	$n+1$
38	δ
38	$\partial X_{t,\alpha}$
36	g_{r+1}^{δ}
534	$p_1 ... p_k$
	u_k^{j-1}

49 (Sz: 6)	
#	Expr
74	$(te_n; e_n)$
56	(0,0,0,0,w_0)
53	$(x_0, R/2)$
32	A_{t_1,t_2}
31	$(\partial_S \Omega; R^m)$
28	$\sum_{i=1}^{i_k}$
26	(x_1,x_2,x_3)
22	$\sup_{0\le s\le h}$
21	$(X_0, 1/2)$
21	$T^{i_1 ... i_k}$

49 (Sz: 7)	
#	Expr
75	$(g(t), K(t))$
72	$(y(t), y'(t))$
63	$(y(s), y'(s))$
34	$(g(t), K(s))$
30	$(g(s), K(s))$
27	$(u(t), \Gamma(t))$
24	$(x', f(x'))$
24	$[t, x, k/n]$
23	(k,q_k,p_{k+1})
23	$M_{sym}^{n\times n}$

49 (Sz: 8)	
#	Expr
31	$\mu^2 + \lvert x\rvert^2 + \lvert y\rvert^2$
25	$\frac{\partial \Psi^{\alpha}}{\partial \bar{q}^{\dot{a}}}$
25	$\widehat{\tau}^{g}_{x_0,x^{\flat}}$
20	$(t, x, W(t,x))$
19	$\frac{\partial X_{t,\alpha}}{\partial \alpha}$
19	$\frac{\partial X_{t,\alpha}}{\partial t}$
14	$B(X_0, 1/2)$
14	$(q, v, c(q,v))$
14	$\left(\mu^2 + \lvert x+ty\rvert^2\right)$
12	(x_1,x_2,x_3,x_4)

49 (Sz: 9)	
#	Expr
56	$(t, x(t), u(t))$
46	$\left(t, x(t), \dot{x}(t)\right)$
30	$\int_{t_r^{\delta}}^{t_{r+1}^{\delta}}$
28	$\int_{s_k^{i-1}}^{s_k^{i}}$
27	$s_k^i - s_k^{i-1}$
22	$(s, x^*(s), u^*(s))$
21	$\int_{t_k^{j-1}}^{t_k^{j}}$
17	$(k, x(k), u(k))$
16	$\left(\gamma(t), \dot{\gamma}(t), t\right)$
13	$\frac{5\pi}{8} - \frac{5\varphi}{4}$

49 (Sz: 10)	
#	Expr
19	$3\varphi/2 - \pi/4 + \psi$
14	$(P + D_x u(x,P), x)$
12	$(x, \partial_x v(x,t), t)$
10	$\left(\int_{-1}^{1} W_X^2 dX\right)^2$
10	$)^{i_1 ... i_s i_{s+1}}$
9	$(3\varphi/2 + \pi/4 + \chi)$
9	$(3\varphi/2 + \pi/4 + \theta)$
9	$\left(\mu^2 + \lvert x\rvert^2\right)^{\frac{p-2}{2}}$
9	$\left\lVert u_h^{\delta} - u_{h-1}^{\delta}\right\rVert^2$
8	$\frac{\partial^2 F}{\partial x^i \partial x^j}$

49 (Sz: 11to15)	
#	Expr
42	$(t, x(t), u(t), s)$
28	$\left(\mu^2 + \lvert x\rvert^2 + \lvert y\rvert^2\right)^{\frac{p-2}{2}}$
21	$\left(t, x(t), \dot{x}(t), s\right)$
19	$(k, x(k), u(k), s)$
14	$\frac{\partial T(\alpha(t))}{\partial p_j^{(i)}}$
13	$-\cos\left(3\varphi/2 - \pi/4 + \psi\right)$
12	$\left(e_n; e_n + \dot{\xi}(\widehat{q},1)\right)$
11	$\frac{\partial X(\alpha(t))}{\partial p_j^{(i)}}$
11	$\left(\mu^2 + \lvert x + ty\rvert^2\right)^{\frac{p-2}{2}}$

49 (Sz: 16to20)	
#	Expr
33	$(t, x(t), u(t), \psi_0, \psi(t))$
31	$\left(\mu^2 + \lvert x\rvert^2 + \lvert y\rvert^2\right)$
30	$\int_{t_r^\delta}^{t_{r+1}^\delta}$
28	$\left(\mu^2 + \lvert x\rvert^2 + \lvert y\rvert^2\right)^{\frac{p-2}{2}}$
28	$\int_{s_k^{i-1}}^{s_k^i}$
25	$\frac{\partial \Psi^\alpha}{\partial \dot{q}^a}$
25	$\widehat{\tau}^g_{x_0, x^\flat}$
22	$(s, x^*(s), u^*(s))$
21	$\left(t, x(t), \dot{x}(t), s\right)$
21	$\int_{t_k^{j-1}}^{t_k^j}$

51 (Geometry)

51 (Sz: 2)	
#	Expr
1854	-1
1398	ij
956	z_1
821	x_1
697	z_2
660	ik
614	z_3
602	p_1
576	p_i
574	a_1
554	x'
546	w_1
520	x_2
513	v_1
500	x_i

51 (Sz: 3)	
#	Expr
784	$n-1$
595	$n+1$
593	$\frac{1}{2}$
560	$i=1$
419	$i+1$
335	$k+1$
310	$i-1$
309	ij
309	$j=1$
304	ik
291	L_q^2
255	$(n-1)$
236	$k-1$
217	$(n+1)$
197	i,j

51 (Sz: 4)	
#	Expr
131	(x,x')
119	(z_1,z_2)
91	2^{n-1}
89	(z_3,z_4)
78	(z_1,w_1)
76	(z,z')
70	(w_2,z_3)
67	P_0P_1
67	(w_1,z_2)
65	(z_2,w_2)
61	$r_{i,j}$
60	x_{n-1}
59	(x_1,x_2)
58	P_{i+1}
56	$d_{UR'}$

51 (Sz: 5)	
#	Expr
68	(M',Δ')
62	$\sum_{i=1}^{n}$
59	$k\,n-k$
45	$\bigcup_{j=1}^{m}$
41	$\bigcup_{i=1}^{m}$
41	$\prod_{i=1}^{r}$
39	$\sum_{j=1}^{n}$
36	$\sum_{i=0}^{m}$
35	$(x_1,...,x_n)$
34	$i_1 i_2$
34	$\rangle_{j=1}^{\infty}$
32	(z_1,z_1')
32	(x_1-y_1)
31	$\overrightarrow{P_0P_1}$
31	(z_n,z_n')

51 (Sz: 6)	
#	Expr
45	$f(A)f(B)$
30	2^{n-r-1}
27	$i \in J_o \bigcup J$
27	$(x_1-y_1)^2$
25	$ilk'j'$
24	q^2+q+1
23	$F_q[t,t^{-1}]$
22	t^2+t+1
21	$f(C)f(D)$
20	$G_{k\,n-k}$

51 (Sz: 7)	
#	Expr
109	β_{ij}^{ik}
77	α_{ij}^{ik}
62	$(f(x),f(y))$
40	$\sum_{i=1}^{n+1}$
37	$f(A)f(B)$
28	$(f(y),f(x))$
24	$i \in J_o \bigcup J_+$
22	$(f(X),f(Y))$
19	$a * u^{*(k+b)}$
16	β_{ik}^{ij}

51 (Sz: 8)	
#	Expr
24	$(f(x),f(\widetilde{y}))$
17	(z_1,z_2,z_3,z_4)
16	$(f(\widetilde{y}),f(x))$
14	$((x_1,x_2),(y_1,y_2))$
14	$(f(y),f(\widetilde{y}))$
13	$\bigcup_{t=0}^{2^k-1}$
12	$P_{i+1}P_{i+2}$
12	(P_0,P_1,P_2)
11	$[z_1,z_2,z_3,z_4]$
11	$\Psi_{k,+\ell,-m}$

51 (Sz: 9)	
#	Expr
34	$(P_0P_1.Q_0Q_1)$
17	$(f_1,\ldots,f_r;k)$
10	$\overrightarrow{P_{i+1}P_{i+2}}$
10	$(Q_0Q_1.P_0P_1)$
10	$(P_0P_1.P_0P_1)$
10	$(z_{1,1},...,z_{1,n})$
9	$(P_0P_i.P_0P_k)$
9	$4\big(n\tan\frac{\pi}{n}\big)A_n$
9	$(\Lambda_i)_{i\in J_o \bigcup J_+}$
9	$(f_1,\ldots,f_r;b)$

51 (Sz: 10)	
#	Expr
15	$((x_1,...,x_n),(y_1,...,y_n))$
9	$y_i e^{-\widetilde{\theta}_j}/y_j$
7	$f(x)f(\overrightarrow{p_{n-1}})$
6	$v_{i+1,i-k-1}$
6	$T^{(n)}_{\log(y_j/x_n)}$
6	$e^{-t\log(z_4-z_2)}$
6	$L^2+M^2+N^2+1$
6	$(P_0P_1.Q_0Q_1)^2$
6	$(n-2)(n-3)(n-1)!$
6	$-t\log[\pm(z_1-z_3)]$

51 (Sz: 11to15)	
#	Expr
19	$\left(\beta_{ij}^{ik},\alpha_{ij}^{ik}\right)$
10	$\alpha_{i_t i_1}^{i_t j_2}$
9	$\alpha_{i_1 i_2}^{i_1 j_2}$
9	$\alpha_{i_1 i_2}^{i_1 i_t}$
9	$1+\frac{i}{n},\ldots,1+\frac{i}{n}$
8	$\log\left(y_i e^{-\widetilde{\theta}_j}/y_j\right)$
8	$\widetilde{T}^{(j)}_{\log\left(y_i e^{-\widetilde{\theta}_j}/y_j\right)}$
8	$rot_{\alpha_{i_t i_1}^{i_t j_2}}$
8	$\beta_{i_1 i_2}^{i_1 i_t}$
8	$\frac{\lvert p_i-p_k\rvert}{\lvert p_i-p_j\rvert}$

51 (Sz: 16to20)	
#	Expr
4	$(z_{n+k,1},\ldots,z_{n+k,n},0,\ldots,0)$
4	$\left(-\beta_{ij}^{ik},\alpha_{ij}^{ik}+\pi\right)$
4	$[f(x_1),f(x_2),f(x_3),f(x_4)]$
4	$\{ze_1,\ldots,ze_i,e_{i+1},\ldots,e_n\}$
4	$\alpha_1\frac{\partial}{\partial\xi_1}+\cdots+\alpha_d\frac{\partial}{\partial\xi_d}$
3	$b_0^2a_k^2+a_kb_k+a_0^2b_k^2$
3	$\log\left(x_{j-2}e^{-\theta_{j-1}}/x_{j-1}\right)$
3	$(a_0^2b_2^2+a_2b_2+a_2^2b_0^2)$
3	$\{a_ib_i\colon 1\le i\le n, a_i\in A, b_i\in B\}$
3	$\left(\prod_{i=1}^{r}\frac{m_i!}{(2\pi)^{m_i+1}}\right)^{[k\colon Q]}$

52 (Convex and discrete geometry)

52 (Sz: 2)	
#	Expr
3637	-1
2367	x_1
1921	ij
1601	a_1
1395	x_i
1280	$2n$
1208	v_1
1135	i_1
990	x_2
950	A_1
864	b_1
761	x_n
761	R^n
726	$2k$
710	p_i

52 (Sz: 3)	
#	Expr
3020	$n-1$
1658	$n+1$
1401	$i=1$
1308	$\frac{1}{2}$
1051	$d-1$
825	$k+1$
807	$i+1$
790	$d+1$
779	$j=1$
724	$k-1$
668	$i-1$
435	$k=1$
409	$i=0$
398	$n-2$
394	i,j

52 (Sz: 4)	
#	Expr
281	S^{n-1}
122	S^{n-1}
110	$-1/2$
110	f_{n-1}
110	r_{d-3}
96	$H^*_{S^1}$
89	$2k+1$
83	2^{n-1}
79	$(\Delta, \partial\Delta)$
78	$2k-1$
78	e^z-1
77	$\frac{1}{\sqrt{2}}$
69	x_{n-1}
69	$\sum_{\lambda\in\Lambda}$
69	$1-t^2$

52 (Sz: 5)	
#	Expr
274	$\sum_{i=1}^{n}$
177	d,k,n
150	$[v_1,\ldots,v_m]$
126	$\sum_{j=1}^{n}$
121	$\int_{S^{n-1}}$
116	k,ℓ,m
93	$b+x-1$
91	$\sum_{i=1}^{k}$
90	k,l,m
88	$(a_1,\ldots,a_n)$
87	$\sum_{k=1}^{n}$
82	$\sum_{i=0}^{n}$
82	$a+b+1$
76	$T^d\times S^1$
73	$(x_1,\ldots,x_n)$

52 (Sz: 6)	
#	Expr
119	$(d+1)(q-1)$
70	$P^{d,k,n}$
53	$z_{k,\ell,m}$
49	$z_{k,l,m}$
47	$(R^n)_{\geq\{0\}}$
47	$2a+b+1$
41	$\frac{2d}{d+1}$
25	$\omega_{\widehat{k+np}}$
24	$(X////T)$
24	$\left\{(\partial^\circ g)^{-1}(y)\right\}$

52 (Sz: 7)	
#	Expr
109	β^{ik}_{ij}
80	$k[v_1,\ldots,v_m]$
77	α^{ik}_{ij}
75	$(b+x-1)/2$
51	$H^*_{T^d\times S^1}$
42	$\sum_{i=1}^{n+1}$
38	$\left(x_1^{(k)},\ldots,x_n^{(k)}\right)$
37	$d,k,n-1$
34	$\Delta^{(d+1)(q-1)}$
31	$\sqrt{\frac{2d}{d+1}}$

52 (Sz: 8)	
#	Expr
25	$\Delta_d^{(d+1)(q-1)}$
23	$\{o,r_1,\cdots,r_{d-2}\}$
21	$\left(Q_{[k,n]}\times\widetilde{Q}_{[l,n]}\right)$
20	$\frac{2(d-2)}{d-1}$
20	$(k-1,n-1)_e$
18	$P^{d,k,n-1}$
17	$z_{k+1,l,m}$
17	$\frac{\log n}{\log\log n}$
16	$z_{k+1,\ell,m}$
15	$\bigotimes_{k[v_1,\ldots,v_m]}$

52 (Sz: 9)	
#	Expr
23	$n-i_k+i_0-1$
20	$\lvert c(t+s)-c(t)\rvert$
19	$(x,y,B^\circ g(y))$
18	$M^{\otimes m}[\lvert m\rvert-2k+2]$
17	$[o,r_1,\cdots,r_{d-3},x]$
16	$^{-i}_{k[v_1,\ldots,v_m]}$
12	$(b+x-1)/2+1$
11	$(n-\alpha-4)/2$
11	$\sum_{\lambda^{cp}=1\neq\lambda^c}$
11	$b_{p-1,m_{p-1}}$

52 (Sz: 10)	
#	Expr
27	$\Delta_{d-1}^{(d+1)(q-1)}$
16	$(W_n \backslash \bigcup A(J,\alpha);)$
14	$\left(M^{\bigotimes m}[\lvert m\rvert - 2k + 2]\right)^*$
12	$\widetilde{X}_{k_1,k_2}^{n-1}$
12	$\frac{(mn)!m!}{(2\pi i)^2}$
12	$\frac{\gamma_1\gamma_2}{\gamma_1+\gamma_2}$
11	$\lvert c(t+s) - c(t)\rvert^2$
11	$m_{i_j,i_{j-1}+1}$
11	$e^{4\pi^2\rho_2^2 r_i^2}$
10	$U_{r-1,r+k-2}$

52 (Sz: 11to15)	
#	Expr
19	$\left(\beta_{ij}^{ik}, \alpha_{ij}^{ik}\right)$
18	$(b_1, \ldots, b_n; k, \epsilon)$
18	$(a_1, \ldots, a_n; m, k, \gamma)$
17	$([o, r_1, \cdots, r_{d-3}, x], S)$
14	$[i + k, i + k + 2r - 1]$
12	$[x_1, \cdots, x_{lm}]^{S_l \wr S_m}$
12	$h_0 + h_1 t^2 + \cdots + h_n t^{2n}$
12	$\frac{r^{n-2}}{(1+\delta r^2)^{n-1}}$
11	$(N-1)\kappa_0 + \frac{i}{m} + \kappa_i$
11	$\frac{1}{\lvert S^{n-1}\rvert a^{n-1} b}$

52 (Sz: 16to20)	
#	Expr
13	$s_1 + 1, s_2 - s_1, \ldots, s_r - s_{r-1}$
10	$\frac{(k+i+l+1)_{i+l-k}}{(i+l-k)!}$
9	$(\epsilon s_1, \ldots, \epsilon s_n; m, k, \gamma/8^m)$
6	$[o, r_1, \cdots, r_{d-3}, G_0 \bigcap M]$
6	$mn - p - q - r - s - b - l + 1$
6	$\left(1 - z^{A_1}\right)\left(1 - z^{A_2}\right) \cdots \left(1 - z^{A_n}\right)(1 - z)z$
6	$([o, r_1, \cdots, r_{d-3}, G_0 \bigcap M], S)$
6	$(\epsilon h_1, \ldots, \epsilon h_n; m, k, \gamma/8^m)$
6	$x^{mn-p-q-r-s-b-l+1}$
6	$\frac{e^{1-1/p}}{\Gamma(1+1/p)p^{1/p}}$

53 (Differential geometry)

53 (Sz: 2)	
#	Expr
34754	-1
12104	ij
9326	T^*
9150	$2n$
7597	S^1
6396	C^∞
6096	x_0
6057	x_1
5342	e_i
5088	(x,y)
4947	dt
4917	S^2
4744	e_1
4567	t_0
4539	c_1

53 (Sz: 3)	
#	Expr
12667	$\frac{1}{2}$
7637	$n-1$
6398	$n+1$
4889	$i=1$
3344	$n-2$
3204	$k+1$
3002	$k-1$
2593	$j=1$
2089	$\frac{1}{4}$
1820	$i+1$
1805	$1,0$
1770	$1/2$
1739	p,q
1665	$0,1$
1601	$1,1$

53 (Sz: 4)	
#	Expr
1423	$\frac{d}{dt}$
1184	$2n+1$
964	$\frac{\partial}{\partial t}$
929	S^{n-1}
804	$-1/2$
521	$2n-1$
394	$\vert_{t=0}$
379	$2k-1$
362	$\widehat{\Omega}_{\leq\mu}$
336	$2k+1$
325	$-\frac{1}{2}$
309	(λ_0,ϵ_0)
288	$\frac{d}{ds}$
279	(r^2+1)
268	$\frac{\partial}{\partial x}$

53 (Sz: 5)	
#	Expr
918	$\sum_{i=1}^{n}$
505	$\sum_{s=1}^{n}$
501	$\sum_{j=1}^{n}$
436	$\sum_{r=1}^{n}$
403	$\frac{n-2}{2}$
353	$\sum_{q=1}^{n}$
334	$i,j=1$
314	$\sum_{i=1}^{m}$
259	$\frac{\partial}{\partial x^i}$
243	$\frac{4}{n-2}$
235	$\sum_{i=1}^{p}$
218	$\sum_{j=1}^{m}$
208	$\sum_{k=1}^{n}$
204	$1,p,\epsilon$
200	$\sum_{m=1}^{n}$

53 (Sz: 6)	
#	Expr
260	$\frac{2n}{n-2}$
227	$(C-M(E)E)$
178	$\left(\widehat{\Omega}_{\leq\mu}A_i\right)$
159	(x_1,x_2,x_3)
115	$M^{0}_{1,k}$
111	$j_1\dots j_s$
88	$C-M(E)E$
87	$Y^{h-cy\ell}$
86	$\Sigma_{\alpha=0}^{N_m}$
85	$\check{j}_0-\mu_0$

53 (Sz: 7)	
#	Expr
388	$\frac{n+2}{n-2}$
193	$\sum_{i,j=1}^{n}$
174	$\sum_{i=1}^{n-1}$
110	$\left(t^\gamma,x^k,x^k_\gamma\right)$
87	$t\in[0,1]$
86	$\frac{\partial^2 g}{\partial s^2}$
73	$H^*_{T^d\times S^1}$
73	$u^{\frac{2n}{n-2}}$
72	$-A(\rho)^2_t$
71	$\sum_{j=1}^{n-1}$

53 (Sz: 8)	
#	Expr
84	$\left(\widehat{\Omega}_{\leq\mu}A_i\right)^{4d}$
84	$\frac{n-2}{4(n-1)}$
75	$u^{\frac{n+2}{n-2}}$
66	$e^{-A(\rho)^2_t}$
63	$100\epsilon,1/2+\epsilon$
55	$\left(\widehat{\Omega}_{\leq\mu}A_i\right)^{2d}$
47	$\left(\frac{\partial^2 g}{\partial s^2}\right)^2$
45	$A_1A_2B_1B_2$
42	$HF^{(a,b)}_{n_0}$
42	$\sin^2\theta_\mu\sin^2\theta_\rho$

53 (Sz: 9)	
#	Expr
73	$\left(Z,\left(\widehat{\Omega}_{\leq\mu}A_i\right)^{4d}\right)$
62	$X_{100\epsilon,1/2+\epsilon}$
49	$Y^{cy\ell}_{[h+dt^2]}$
48	$\sum_{A,B=1}^{n+1}$
40	$(a;b_1,\dots,b_n)$
40	$S^3_{-(2n-1)/2}$
37	$(A;\gamma;t;p,q)$
30	$M_i^{-\frac{p_i-1}{2}}$
30	$\frac{\partial}{\partial x}\wedge\frac{\partial}{\partial y}$

53 (Sz: 10)	
#	Expr
124	$\left(M,E\bigotimes\widehat{\Omega}_{\leq\mu}A_i\right)$
51	$\left(\frac{\delta}{\delta q^i},\frac{\delta}{\delta q^j}\right)$
50	$\left([0,1],\left(\widehat{\Omega}_{\leq\mu}A_i\right)^{2d}\right)$
43	$\left(\frac{\partial}{\partial p_i},\frac{\partial}{\partial p_j}\right)$
41	$\left(\frac{1}{f^2}-D\right)^{-1/2}$
36	$\left(\frac{\partial}{\partial p_i},\frac{\delta}{\delta q^j}\right)$
27	$C_{\widehat{X}_\Gamma\times_{M_n}Y(\Gamma)}$
24	$\left(\frac{1}{\Omega}\frac{\partial H}{\partial p_r}\right)$
23	$i_1\cdots i_p\lambda_1\cdots\lambda_r$
22	$(\gamma;t_1,\cdots;p,q)$
521	$(x^1,\dots,x^n,v^1,\dots,v^n)$

53 (Sz: 11to15)	
#	Expr
103	$X^{i_1\dots i_r}_{j_1\dots j_s}$
49	$x_1^2+x_2^2+x_3^2$
35	$\partial X^{i_1\dots i_r}_{j_1\dots j_s}$
31	$-3+4\,\alpha_1\,\psi'(\alpha_1)$
27	$\lvert x\rvert^2\lvert y\rvert^2-\langle x,y\rangle^2$
21	$l,\ exp(1/l{-}2\epsilon/l^2)\rho$
21	$e^{\frac{ib\lvert x\rvert^2}{4(a+bt)}}$
20	$E^{p_1,p_2}_{q_1,q_2}$
20	$\langle\dots:\langle Y_{s_2}\colon g_k\rangle\rangle\dots$
20	$\langle Y_2\colon\langle\dots:\langle Y_{s_2}\colon g_k\rangle\rangle\dots\rangle$

53 (Sz: 16to20)	
#	Expr
27	$(\alpha_2+\alpha_1\,(-3+4\,\alpha_1\,\psi'(\alpha_1)))$
18	$\left\{x_i+\varphi_i^{d+1},x_j+\varphi_j^{d+1}\right\}_d$
18	$\left\{x_i+\varphi_i^{d+1},x_j+\varphi_j^{d+1}\right\}$
18	$\frac{1}{2}-\frac{k+m+1}{n}-\frac{1}{n+1}$
16	$\langle X_1\colon\langle X_2\colon\langle\dots:\langle X_s\colon g_j\rangle\rangle\dots\rangle\rangle$
16	$\langle Y_1\colon\langle Y_2\colon\langle\dots:\langle Y_{s_2}\colon g_k\rangle\rangle\dots\rangle\rangle$
15	$(x^1,\dots,x^n,W(x^1,\dots,x^n,v))$
12	$\big(x+\epsilon y,\bar{x}+\epsilon^2\bar{y}+\frac{\epsilon}{2}\omega(x,y)\big)$
12	$\frac{64(\cos\theta_\mu+\cos\theta_\rho)}{\sin^2\theta_\mu\sin^2\theta_\rho}$
11	$\tau^1_{\bar{1},11}-\tau^{\bar{1}}_{1,\bar{1}\bar{1}}$

54 (General topology)

54 (Sz: 2)	
#	Expr
4396	-1
959	x_0
718	(x,y)
588	S^1
581	x_n
579	x_1
522	f_n
449	C^*
442	$[0,1]$
432	x_i
401	S_1
384	R^n
379	y_0
371	y_1
368	g_1

54 (Sz: 3)	
#	Expr
900	$n+1$
808	f^{-1}
667	$i+1$
563	$i=1$
505	$k+1$
480	$n-1$
401	$s \in S$
385	fin
340	$k-1$
281	$j=1$
270	$\frac{1}{2}$
266	C_r^*
241	g^{-1}
227	$\bigotimes_R^L$
216	π^{-1}

54 (Sz: 4)	
#	Expr
151	S_{fin}
112	U_{fin}
101	$\geq \{0\}$
74	Ind_L
73	$\left(X, f\right)$
53	(B_Γ, B_Γ)
52	$\bigcup_{i \in I}$
49	M_{Lip}
47	ind_L
45	2^{k+3}
44	$h_{i,j}$
42	(B_Ω, B_Ω)
42	$Cl_{\beta X}$
41	$\lim_{n \to \infty}$
41	$R\left[\bar{X}\right]$
538	f_{k+1}

54 (Sz: 5)	
#	Expr
79	$\sum_{i=1}^{n}$
59	$asdim$
58	$\sum_{j=1}^{n}$
43	$\frac{x+l}{N}$
39	$\sum_{k=1}^{n}$
36	$\sum_{j=1}^{c}$
34	(x_0, y_0)
33	-2^{k+3}
32	$\|x_3 - x_4\|$
29	$(UL)_a^\vee)$
29	$\bigcup_{n=1}^{\infty}$
28	$\sum_{i=1}^{k}$
28	$\}_{i=1}^{\infty}$
27	$(S(I(f)))$
26	$W_{\epsilon,n}^s$

54 (Sz: 6)	
#	Expr
47	$(R^n)_{\geq \{0\}}$
32	$2^{-2^{\overline{k+3}}}$
30	$\sigma(s_0) - 1$
26	$\}_{k=1}^{+\infty}$
24	(K^*, Σ^*, F^*)
24	$\left(f, \frac{1}{4^n}\right)$
23	$(f \times g_1)^{-1}$
23	$[a(x)^* a(x)]$
16	-2^{2k+7}
15	$l_{n,\bar{\theta}}^k$

54 (Sz: 7)	
#	Expr
38	$\sum_{l=0}^{N-1}$
37	j, δ, k, η
35	$\alpha_1, \ldots, \alpha_t$
34	$(f(x), f(y))$
29	$(r_\nu \colon \nu \in pos(t))$
22	$[1 - p_{k+1}(x)]$
19	$\bigcap_{i=1}^{i=n}$
18	$\|f(u) - f(v)\|$
18	$(\alpha_i \circ \omega_L)^{-1}$
16	$2^{-2^{2k+7}}$

54 (Sz: 8)	
#	Expr
23	$(f^{-1}(t) \bigcap Bd(A))$
17	$\frac{\log n}{\log \log n}$
15	$P_{j,\delta,k,\eta}$
14	$(\alpha_1, \ldots, \alpha_t, \epsilon)$
13	$(X_1 + \cdots + X_n)^k$
12	$(R^{n+1})_{\geq \{0\}}$
10	$\left(g, \frac{1}{2^{n-3}}\right)$
10	$\left(\nu_{\lambda p}, \nu_{(1-\lambda)p}\right)$
9	$\gamma \in (G_2)^{\sigma(z)}$
9	$(Y_{S,f}, T_{S,f})$

54 (Sz: 9)	
#	Expr
19	$[a(x)^* a(x)]^{1/2}$
16	a_i^k, a_{i+1}^k
14	$B_{(\alpha_1, \ldots, \alpha_t, \epsilon)}$
13	$Q_4^{mt}(K^*, \Sigma^*, F^*)$
12	$\frac{\delta}{s(\|h(x)\|+1)}$
12	$1 + 2^{-2^{2k+7}}$
10	$(R^n, \, o.bdd.)_{\geq \{0\}}$
10	$\mu(Nx) + \widetilde{\mu}(Nx)$
9	$X_1 + \cdots + X_n - 1$
9	$(m + k - p + 2, \omega)$

54 (Sz: 10)	
#	Expr
9	$C_{(m+k-p+2,\omega)}$
9	$\sum_{g\in G\colon\, r(g)=x}$
8	$\bar{m}\in R_{n+1}(x)$
7	$(f^{-1}(t_1)\bigcap Bd(C_\nu))$
7	$\left(P_{j,\delta,k,\eta}(x)\right)_k$
6	$F\setminus F^1\left(f,\frac{1}{4^n}\right)$
6	$\frac{2^{3n+3}}{e_{n-1}}$
5	$\{x_n\colon n\in N, n\geq m\}$
4	$\prod_{\ell=k+1}^{k_i-1}$
4	$M_{\mu(Nx)+\widetilde{\mu}(Nx)}$

54 (Sz: 11to15)	
#	Expr
10	$m(\alpha(\omega))+\widetilde{m}(\alpha(\omega))$
10	$\left(f,\frac{\delta}{s(\lvert h(x)\rvert+1)}\wedge 1\right)$
8	$\frac{\lambda(1-\mu)}{\mu(1-\lambda)}$
8	$\left(f-\sum_{j=1}^{n}g_j,\frac{1}{2^n}\right)$
8	$(C^*(X),C^*(X),C^*(X))$
8	$y^k_{a^k_i,a^k_{i+1}}$
8	$x^k_{a^k_i,a^k_{i+1}}$
7	$\left(\sum_{g\in G\colon\, r(g)=x}f(g)\right)$
7	$\{f_\alpha\colon X_\alpha\to Y_\alpha\}_{\alpha\in I(X)}$
7	$\left(K\bigotimes_R^L S, L\bigotimes_R^L S\right)$

54 (Sz: 16to20)	
#	Expr
6	$\left\{\left\{P_n(\bar{m})\right\}_{\bar{m}\in R_{n+1}(x)}\right\}_{n\geq 0}$
4	$\left(\lvert f(u)\rvert^{\frac{q}{p}-1}+\lvert f(v)\rvert^{\frac{q}{p}-1}\right)$
4	$\lVert x_2-x_3\rVert+\lVert x_3-x_4\rVert-\lVert x_2-x_4\rVert$
4	$\lVert x_1-x_3\rVert+\lVert x_3-x_4\rVert-\lVert x_1-x_4\rVert$
4	$\left(\wedge V\bigotimes\wedge V\bigotimes\wedge\bar{V}\bigotimes\wedge\bar{V},d'\right)$
4	$\left\{\frac{\dim(X_{jm})}{\alpha_{ij}^{(m)}}\colon 1\leq m\leq r(j)\right\}$
3	$\left\lvert\sum_{k=1}^{n}a_{ki}-\sum_{k=1}^{n}a_{kj}\right\rvert$
3	$\sum_{i'=1}^{m(\alpha(\omega))+\widetilde{m}(\alpha(\omega))}$
3	$\left[\sum_i\sum_{\lvert l\rvert\geq l_j(\xi)}\left\lvert\widehat{\phi_i}'(\xi+l)\right\rvert^2\right]$
3	$\left(-\frac{1}{2},-\frac{3}{7}\right)\bigcup\left[\frac{3}{7},\frac{1}{2}\right)$

55 (Algebraic topology)

55 (Sz: 2)	
#	Expr
13780	-1
4496	H^*
2994	S^1
2848	x_1
2807	H_*
2600	$2n$
2522	$2k$
2409	ij
2019	π_1
1704	[0,1]
1561	S^n
1553	x_2
1542	f_1
1512	a_1
1490	i_1

55 (Sz: 3)	
#	Expr
5295	$n+1$
4378	$n-1$
2133	$i+1$
1904	$k-1$
1805	$k+1$
1303	$i-1$
1146	$i=1$
1017	f^{-1}
949	Aut
933	$p-1$
931	p,q
850	$m+1$
840	m,n
817	Map
771	i,j

55 (Sz: 4)	
#	Expr
308	π_2^{-1}
306	M^{-TM}
286	$2k-1$
279	S^{n-1}
276	$pro-$
253	(f_1,f_2)
251	$2n-1$
241	$2n+1$
234	$2k+1$
229	X_{n+1}
224	π_3^{-1}
205	$M_{m,n}$
194	I_+^{gl}
181	$L_{T(n)}$
178	$[-1,1]$

55 (Sz: 5)	
#	Expr
193	$Aut(F_n)$
157	t_1^{top}
156	$\widetilde{M}_{\mu,c}$
152	$I_+^{gl}cell$
125	$(BGO(2n))$
111	$\sum_{i=1}^{n}$
110	$(X,Y;f)$
92	α,β,γ
81	$E_r^{s,t}$

55 (Sz: 6)	
#	Expr
182	$N_{Aut(F_n)}$
64	$\bar{p},X,G$
57	$(d+1)(q-1)$
44	$^{q\,(\star)-1}$
40	$(c(L/S^1))$
39	S_+^{2r-1}
39	$\frac{1}{2k-1}$
38	$(X;Z/2Z)$

55 (Sz: 7)	
#	Expr
55	$f(\alpha),f(\beta)$
52	$z_{\mu,y}+w_0$
50	$\Delta[n]\bigotimes\Delta[m]$
49	$j_1+\cdots+j_k$
41	$(H^2\times C^q,n)$
38	$k[v_1,\ldots,v_m]$
37	$(BGO(4m+2))$
36	(C_{2r+1},K_n)
34	$\Delta[1]\bigotimes\Delta[n]$

55 (Sz: 8)	
#	Expr
21	$(t_0,\rho_0)(t_1,\rho_1)$
21	$(q_1,0,-q_1)$
21	$(A^{*,-*}(B,\pi,n))$
20	$2^{n-1}-1,2$
19	$V_{w(\lambda+\rho)-\rho}$
19	$(Y_Q,X_Q;f_Q)$
19	$(z_{\mu,y}+w_0)^5$
18	$\nu_{m-1,n-2}$
17	$(q_1,-q_1,0)$
17	$(-q_1,q_1,0)$

55 (Sz: 9)	
#	Expr
29	$(X_1\vee\cdots\vee X_{k-1})$
27	(BP_*,BP_*BP)
22	$(A,Z)_{\alpha,\beta}^{\gamma,\delta}$
20	$(\partial Z_\beta,Z_\beta,\phi_\beta)$
19	$(C_U-Aff^{\sim,\tau})$
18	$(n-m+i,m-1)$
18	$\left(E(n)/I_n^{k+1}\right)$
18	$\left(M^{\otimes m}[\lvert m\rvert-2k+2]\right)$
17	$S_x^{2n-2s+1}$
17	$\Delta_{(d+1)(q-1)}^{\leq d}$

55 (Sz: 10)	
#	Expr
25	$\left\lfloor e_V, e_V^{-1}, Y_{V,d} \right\rfloor$
20	$(S^m \times S^m / Z_2, \Delta)$
19	$(BP_*/I_{n+1}, M)$
17	$[\iota_n, \eta_n^2 \sigma_{n+2}]$
16	$\widetilde{H}_{\nu_{m-1,n-2}}$
15	$\left(S^3 \vee \cdots \vee S^{2d+1}\right)$
14	$\left(M^{\bigotimes m}[\lvert m \rvert - 2k + 2]\right)^*$
14	$\left(CP^{n+1}; IC^{\bullet}_{\bar{m}}\right)$
12	$Tor_{k[v_1,\ldots,v_m]}$
12	$(z_{2i} \circ [\eta^2 \lambda^{-1}])$

55 (Sz: 11to15)	
#	Expr
27	$(X_{n-k} - X_{n-k-1})$
19	$[\Sigma^{1-n} L(\Sigma^{n-1} X)]$
18	$[\alpha\phi(0)\phi(1)\phi(0)\phi(1)]$
14	$(I^{i-1} \times [0,2] \times I^{n-i})$
14	$\Delta^{\leq d-1}_{(d+1)(q-1)}$
13	$\left[\cdots \left[\Lambda_n, \gamma_{j_q}\right] \gamma_{j_{q-1}}\right]$
12	$(W(t_1), W(t_2), p)$
11	$(\Sigma^{1-n} L(\Sigma^{n-1} X))$
11	$\sum_{k=-(2g-2)}^{2g-2}$
10	$\bigsqcup_{(\alpha,\beta,\gamma) \in X^0 \vec{X}^0 \vec{X}^0}$

55 (Sz: 16to20)	
#	Expr
9	$(a_1 \cdots \widehat{a}_i \cdots \widehat{a}_j \cdots a_{q+1}, a_j)$
7	$\left\lvert S(B \times I) \times_{z^{n+1}_{B \times I}} L(\pi, n) \right\rvert$
7	$e^{i\vec{\omega} . \wedge \vec{\omega} + i\lvert\vec{\mu}\rvert^2 y}$
6	$\left(X(c_p) \times_{aut(c_p)} S(c_*); E(c_0)\right)$
5	$\left[B^{\sigma}_{s,j}, B^{\tau}_{i,j} + B^{\tau\sigma^{-1}}_{i,s}\right]$
5	$(L; (Ri_{k-1*} \cdots Ri_{1*} G)\lvert_L)$
5	$e^{i\vec{\omega}' . \wedge \vec{\omega}' + i\lvert\vec{z}\rvert^2 y}$
5	$i\vec{\omega}' . \wedge \vec{\omega}' + i\lvert\vec{z}\rvert^2 y$
5	$(x_1, x_2, \cdots, x_{i-1}, x_{i+1}, \cdots, x_n)$

57 (Manifolds and cell complexes)

57 (Sz: 2)	
#	Expr
36809	-1
12210	π_1
10957	S^1
8061	H_1
7003	$2n$
5043	S^3
4918	S^2
4902	x_1
4724	$2k$
4702	a_1
4402	c_1
4327	ij
4257	[0,1]
3455	x_0
3408	H^1

57 (Sz: 3)	
#	Expr
6749	$n-1$
5318	$n+1$
4375	$i+1$
4208	$\frac{1}{2}$
3777	$i=1$
3098	$k+1$
2759	$i-1$
2742	$k-1$
1866	i,j
1725	f^{-1}
1540	p,q
1531	α^{-1}
1505	$j=1$
1406	$m-1$
1337	t^{-1}

57 (Sz: 4)	
#	Expr
682	$2n+1$
665	$[-1,1]$
652	$2n-1$
449	$2k-1$
420	S^{n-1}
403	$2k+1$
385	$-1/2$
385	$2r+1$
338	$2g-2$
325	$[t,t^{-1}]$
287	σ_1^{-1}
262	x_{i+1}
257	v_{i+1}
225	(z_1,z_2)
218	b_{g-1}

57 (Sz: 5)	
#	Expr
326	$\sum_{i=1}^{n}$
321	$S^1 \times S^2$
272	C_{2r+1}
235	a_{2g-2}
218	$\sum_{j=1}^{n}$
215	$\sum_{i=1}^{k}$
215	$S^1 \times S^1$
210	$[v_1,\ldots,v_m]$
204	S^{2n-1}
188	p_1, q_1
156	$\widetilde{M}_{\mu,c}$
155	$\bigcup_{i=1}^{n}$
147	t_1, t_2
144	$(-1)^{n+1}$
125	$\prod_{i=1}^{n}$

57 (Sz: 6)	
#	Expr
118	$(d+1)(q-1)$
118	$n+2,\ 2p+1$
93	$n+2,\ 2p+2$
83	F, λ_{n-p}
74	$\frac{p_j v}{n_j}$
72	$2,\ldots,2$
64	$\bar{p}, X, G$
64	$(X; p_X, R)$
60	$\left(g'_\tau, A^\sharp\right)$
57	$([0,1]; \{0\}, \{1\})$

57 (Sz: 7)	
#	Expr
160	$(Y, E(\pi \bigotimes \varphi))$
160	$2g-2,\ 2g-1$
120	(C_{2r+1}, K_n)
118	$k[v_1,\ldots,v_m]$
109	β_{ij}^{ik}
89	$t \in [0,1]$
89	$D_{n+2,\ 2p+1}$
77	α_{ij}^{ik}
76	$D_{n+2,\ 2p+2}$
64	$(n+1, p+1)$

57 (Sz: 8)	
#	Expr
141	$c_{2g-2,\ 2g-1}$
49	$\vert_{Y(\Gamma)\times T(M)}$
48	$(\partial X, V^+(\sigma_\lambda, \varphi))$
37	$F_{A_{i,x,\lambda_k}}$
34	$c_{2g-3,\ 2g-2}$
30	$\left(\partial X, V^k(\sigma_\lambda, \varphi)\right)$
28	$\frac{a-n+bn}{2}$
27	$\Phi^q_{\lambda_m \lambda_{m-1}}$
26	$(\partial X, V(\sigma_\cdot, \varphi))$
25	$\Delta_d^{(d+1)(q-1)}$

57 (Sz: 9)	
#	Expr
40	$S^3_{-(2n-1)/2}$
39	$(S^1 \times D^2, A, B)$
38	$(a; b_1, \ldots, b_n)$
31	$L_1^2\left(g'_\tau, A^\sharp\right)$
25	$(X_1, X_2; P, Q)$
24	$\left(1 + qX_i^{-1}\right)^{-1}$
22	$(L; i_1, \cdots, i_r)$
22	$(X_1, \ldots, X_n \colon G)$
21	$D_X^r(M)_0^c$
18	$\{\Delta(V_1)/\Delta(V_2)\}$

57 (Sz: 10)	
#	Expr
82	$\sigma_{F,\lambda_{n-p}}^{n-p}$
41	$\sigma_{(p-1)\alpha-\rho}^{n-p}$
27	$\Delta_{d-1}^{(d+1)(q-1)}$
25	$\left[e_V,e_V^{-1},Y_{V,d}\right]$
24	$\left(t^{1/2}-t^{-1/2}\right)$
24	$(Wh(ZG^-)/Wh(ZH))$
21	$\left(\frac{a-n+bn}{2}-1\right)$
20	$(S^m\times S^m/Z_2,\Delta)$
17	$[\iota_n,\eta_n^2\sigma_{n+2}]$
16	$\left(K_W\bigotimes K_X^{-1}\right)^{1/2}$

57 (Sz: 11to15)	
#	Expr
80	$\left(\sigma_{F,\lambda_{n-p}}^{n-p},\varphi\right)$
29	$\left(\sigma_{(p-1)\alpha-\rho}^{n-p},\varphi\right)$
28	$\left\|\left(\widetilde{A},\widetilde{\Phi}\right)-(A,\Phi)\right\|_{L_2^2(g_\tau,A)}$
27	$(X_{n-k}-X_{n-k-1})$
27	$(p_j/q_j;r_j/s_j)$
26	$\left(\Gamma,C^{-\omega}\left(\Lambda,V^k(\sigma_\lambda,\varphi)\right)\right)$
23	$A_1,\cdots,\widehat{A_j},\cdots,A_p$
20	$(Hom\,(C_{2r+1},K_n);Z)$
19	$\left(\beta_{ij}^{ik},\alpha_{ij}^{ik}\right)$
18	$\frac{1-x^{-1}}{1-y^{-1}}$

57 (Sz: 16to20)	
#	Expr
18	$(h_0,h_1,h_2;q_0,q_1,q_2)$
16	$\left(\frac{a-n+bn}{2}-1\right)F+\left(\frac{b}{2}-1\right)C_-$
15	$\left(\partial X,V^+\left(\sigma_{F,\lambda_{n-p}}^{n-p},\varphi\right)\right)$
13	$(J_v\bigotimes J_vE_vJ_v+J_vE_vJ_v\bigotimes K_v)$
11	$(v_2v_3v_1v_2\sigma_1v_2v_1v_3v_2)$
11	$\left(K;q^{\vec{\alpha}\bullet\lambda_1},\ldots,q^{\vec{\alpha}\bullet\lambda_r}\right)$
10	$\frac{c(TW)}{(1+F_0)\prod_{j\in J}(1+F_j)}$
10	$(pr_{2n}[X_k]\circ f_{2n}[k]\circ pr_{2n}[X_k])$
9	$(p_{k,j}/q_{k,j};r_{k,j}/s_{k,j})$
9	$(a_{2g-3}a_{2g-2}a_{2g-1}b)$

58 (Global analysis, analysis on manifolds)

58 (Sz: 2)	
#	Expr
23775	-1
6119	L^2
5995	ij
4985	T^*
4829	x_0
4736	C^∞
4702	$2n$
4363	x_1
3706	t_0
3329	S^1
3284	(x,y)
3111	dt
2998	$2k$
2825	λ_1
2811	dx

58 (Sz: 3)	
#	Expr
9581	$\frac{1}{2}$
5237	$n-1$
3884	$n+1$
3023	$i=1$
2591	$1/2$
2552	$n-2$
1958	$k+1$
1933	$j=1$
1887	$k-1$
1331	$n-4$
1200	$\frac{1}{4}$
1122	$\frac{n}{2}$
1084	g^{-1}
1053	$p-1$
1043	$i+1$

58 (Sz: 4)	
#	Expr
906	$-1/2$
728	$\frac{d}{dt}$
644	$\frac{\partial}{\partial t}$
447	$2n+1$
385	$(k+i\tau)$
381	$-\frac{1}{2}$
362	$\widehat{\Omega}_{\leq\mu}$
354	S^{n-1}
340	$\delta_{x,\lambda}$
323	$2k+1$
288	$\lim_{n\to\infty}$
281	(r^2+1)
278	$n+1$
272	x_{n-1}
262	$2n-1$
5248	$\frac{d}{ds}$

58 (Sz: 5)	
#	Expr
567	$\sum_{i=1}^{n}$
375	$\sum_{j=1}^{n}$
298	$\sum_{i=1}^{p}$
298	$\frac{n-1}{2}$
295	$\frac{n+1}{2}$
279	$i,j=1$
244	$\frac{n-2}{2}$
229	λ_k^{p-1}
209	$\frac{1}{2\pi i}$
190	$\sum_{i=1}^{k}$
189	$\frac{4}{n-2}$
174	$\frac{2}{n-2}$
174	$\sum_{n=1}^{\infty}$
172	$\frac{n}{n-2}$
171	$n/2-1$

58 (Sz: 6)	
#	Expr
199	$\frac{2n}{n-4}$
178	$\left(\widehat{\Omega}_{\leq\mu}A_i\right)$
144	$H_1^{-1/2}$
125	$\partial P\delta_{x,\lambda}$
93	$\frac{2n}{n-2}$
89	F,λ_{n-p}
80	(x_1,x_2,x_3)
77	$N-2p-1$
75	$3\lambda_k^{p-1}$
74	$(te_n;e_n)$

58 (Sz: 7)	
#	Expr
228	$\frac{n+2}{n-2}$
194	$\frac{n+4}{n-4}$
185	$\sum_{i,j=1}^{n}$
160	$(Y,E(\pi\bigotimes\varphi))$
110	(x',ξ',μ)
93	$\sum_{i=1}^{n-1}$
82	$\kappa^{-1}_{\lvert\lambda\rvert^{1/m}}$
72	$-A(\rho)_t^2$
69	$\sum_{j=1}^{n-1}$
64	$(\partial X,V(\sigma_\lambda))$

58 (Sz: 8)	
#	Expr
91	$(\partial X,V(\sigma_\lambda,\varphi))$
84	$\left(\widehat{\Omega}_{\leq\mu}A_i\right)^{4d}$
71	$\frac{N-2p-1}{2}$
66	$e^{-A(\rho)_t^2}$
55	$\left(\widehat{\Omega}_{\leq\mu}A_i\right)^{2d}$
48	i_1,i_2,i_3
48	$(\partial X,V^+(\sigma_\lambda,\varphi))$
46	$\frac{n-2p-1}{2}$
44	$P\delta_{x,\lambda}+v_\epsilon$
43	$u^{\frac{n+2}{n-2}}$

58 (Sz: 9)	
#	Expr
86	$\frac{\partial P\delta_{x,\lambda}}{\partial\lambda}$
73	$\left(Z,\left(\widehat{\Omega}_{\leq\mu}A_i\right)^{4d}\right)$
48	$\sum_{A,B=1}^{n+1}$
48	$\lambda(h),\lambda(g),v$
42	$u^*_{n+1\,,v}$
41	$\left(\frac{N-2p-1}{2}\right)^2$
40	$n+1\,,v\,v$
40	$\left(\frac{n-2p-1}{2}\right)^2$
38	$\left[-\frac{\pi}{2},\frac{\pi}{2}\right]$
34	$(D^*,\rho(z)d^2z)$

58 (Sz: 10)	
#	Expr
124	$\left(M,E\bigotimes\widehat{\Omega}_{\leq\mu}A_i\right)$
88	$\sigma^{n-p}_{F,\lambda_{n-p}}$
50	$\left([0,1],\left(\widehat{\Omega}_{\leq\mu}A_i\right)^{2d}\right)$
41	$\sigma^{n-p}_{(p-1)\alpha-\rho}$
33	$\frac{\partial_\lambda^{m-1}}{(m-1)!}$
30	$\left(G_{F_N},\lvert TG_N\rvert^{1/2}\right)$
28	$\frac{grad\,'\alpha}{2\alpha}$
27	$e^{-t(U^*i^*D'\ iU)^2}$
26	(x',y',ξ',μ)
25	$i_1,\,i_2,\,i_3$

58 (Sz: 11to15)	
#	Expr
80	$\left(\sigma_{F,\lambda_{n-p}}^{n-p},\varphi\right)$
30	$e_k v_k + \widetilde{e}_k \widetilde{v}_k$
27	$\left(\lambda, \frac{1}{k}\Delta_{k,\epsilon}''\right)$
26	$\left(\Gamma, C^{-\omega}\left(\Lambda, V^k(\sigma_\lambda,\varphi)\right)\right)$
20	$u_{n+1\,,v\,v}^{*}$
20	$(\mu_1,\lambda_1),\cdots,(\mu_d,\lambda_d)$
20	$\frac{\partial^2 P\delta_{x,\lambda}}{\partial\lambda^2}$
18	$M_k^{-\frac{4+2l}{n-2}}$
18	$\left(\Lambda, V^+\left(\sigma_{F,\lambda_{n-p}}^{n-p},\varphi\right)\right)$
17	$\delta_{i_1,i_2}^{k_1,k_2}$

58 (Sz: 16to20)	
#	Expr
15	$\left(\partial X, V^+\left(\sigma_{F,\lambda_{n-p}}^{n-p},\varphi\right)\right)$
13	$(x_1y_2 + y_1x_2 + z_1t_2 + t_1z_2)$
13	$(x_1t_2 + t_1x_2 + z_1y_2 + y_1z_2)$
12	$\left\{\left(\frac{N-2p-1}{2}\right)^2, \left(\frac{N-2p+1}{2}\right)^2\right\}$
11	$\tau_{\bar{1},11}^{1} - \tau_{1,\bar{1}\bar{1}}^{\bar{1}}$
11	$\frac{64(\cos\theta_\mu+\cos\theta_\rho)}{\sin^2\theta_\mu \sin^2\theta_\rho}$
11	$P_{\partial M,\geq 0}, gP_{\partial M,\geq 0}g^{-1}$
11	$\left(G_{F_N}, L(\pi^*E) \bigotimes |TG_N|^{1/2}\right)$
10	$\sum_{i=1}^{2n} \frac{zy^i c(e_i)}{\sqrt{t}}$
10	$(pr_{2n}[X_k] \circ f_{2n}[k] \circ pr_{2n}[X_k])$

60 (Probability theory and stochastic processes)

60 (Sz: 2)	
#	Expr
13910	-1
6343	x_1
3831	(x,y)
3699	t_0
3565	ds
3304	x_0
3171	dt
3146	x_2
3107	t_1
2980	$[0,1]$
2946	L^2
2930	dx
2805	x_i
2428	X_t
2419	X_1

60 (Sz: 3)	
#	Expr
6988	$\frac{1}{2}$
5735	$i=1$
4798	$n-1$
3883	$1/2$
3261	$n+1$
3161	$j=1$
3157	$k-1$
2955	$\int_0^t$
2734	$n \to \infty$
2630	$k+1$
2348	$k=1$
1830	$\int_0^\infty$
1777	i,j
1769	s,t
1647	$i+1$

60 (Sz: 4)	
#	Expr
1719	$-1/2$
1582	$\lim_{n\to\infty}$
723	$\lim_{t\to\infty}$
473	$\limsup_{n\to\infty}$
403	$\lim_{N\to\infty}$
395	t_{i+1}
332	$n^{1/2}$
325	$)^{1/2}$
319	x_{n-1}
310	$\frac{d}{dt}$
290	$\lim_{\epsilon\to 0}$
287	$\int_{-\infty}^{\infty}$
256	$\liminf_{n\to\infty}$
249	$\lim_{k\to\infty}$
236	x_{k-1}

60 (Sz: 5)	
#	Expr
1258	$\sum_{i=1}^{n}$
741	$\sum_{j=1}^{n}$
659	$\sum_{n=0}^{\infty}$
578	$\sum_{i=1}^{N}$
557	$\sum_{n=1}^{\infty}$
535	$\sum_{k=1}^{n}$
457	$n^{-1/2}$
417	$1+o(1)$
408	$\sum_{k=1}^{\infty}$
311	$\sum_{i=1}^{k}$
301	$\sum_{k=0}^{\infty}$
294	$\prod_{i=1}^{n}$
277	$\sum_{i=1}^{\infty}$
238	$\sum_{i=1}^{m}$
233	$\prod_{i=1}^{k}$

60 (Sz: 6)	
#	Expr
107	$\nu_{p-1,0}$
82	$(\xi_s^\epsilon, Y_s^\epsilon)$
70	$Q_1^{-1/2}$
69	$(\log l)^{1/3}$
68	$\frac{K(x)}{\epsilon^p}$
66	$C_{+,1/2}$
64	$\sup_{0\le t\le T}$
63	$\vartheta_{t+1:\,w}$
59	$v^{\epsilon,\widetilde{u}_0}$
51	$(\vec{\sigma}^1, \vec{\sigma}^2)$

60 (Sz: 7)	
#	Expr
136	$\sum_{k=0}^{n-1}$
113	$1 \leq h, t \leq n$
112	$\sum_{k=1}^{n-1}$
101	$\sum_{j=0}^{n-1}$
100	$0 \leq s \leq t \leq T$
99	$\sum_{i=0}^{n-1}$
87	$\sum_{j=1}^{m-1}$
69	$R^{-}_{j_i,l_i}$
65	$\sum_{i=1}^{n-1}$
65	$(x_1,x_2,\ldots,x_n)$

60 (Sz: 8)	
#	Expr
96	$\det_{1\leq h,t\leq n}$
38	$1-\frac{c}{\mu}M(\lvert t\rvert)$
37	$\lim_{A_z^\beta \ni x\to z}$
36	$\big(0,T;L^2\big(R^d\big)\big)$
35	$v^{\epsilon,\widetilde{u}_0,n}$
35	$I_{\bar{\theta},\bar{\theta}'}$
34	$(t_0,t;a,b)$
32	$Q_{1-u}^{-1/2}$
31	k_1,k_2,k_3
31	$-\beta J_n^{L_{1/2}}$

60 (Sz: 9)	
#	Expr
58	t_{l-1}^n, t_l^n
49	$B_{R_0,R_\alpha}^{0,\alpha}$
39	$\big[\sum_{x\in C_k}\widetilde{c}(\eta_x)\big]$
33	$(\kappa,\kappa-4,\kappa-4)$
33	$B_{R_\alpha,R_\beta}^{\alpha,\beta}$
32	$A_{N-(p-1)}^{p-1}$
32	$\{p+1,\ldots,p+q\}$
31	$e^{-\beta J_n^{L_{1/2}}}$
31	$\big(0,+\infty;L^2\big(R^d\big)\big)$
30	$\frac{Z_t+Z_{t+h}}{2}$
524	$\frac{(p-1)!}{N^{p-1}}$

60 (Sz: 10)	
#	Expr
37	$t_i \in D_n, t_i \leq t$
36	$\int_{-\sqrt{2}/2}^{\sqrt{2}/2}$
29	$(-r\vec{e}_1, r\vec{e}_1)$
27	$P_{N,+,0}^{a,b}$
24	$\big(\frac{2-\alpha}{2n\alpha}\big)^{2/3}$
23	$\Big(\Sigma_{(i)}^T\Sigma_{(i)}-zI\Big)^{-1}$
23	$C\big([0,\tau_\rho];H^1\big(R^d\big)\big)$
22	$u_{x_1x_2\ldots x_{k-1}}$
22	$\frac{k}{k_1,k_2,k_3}$
21	$\frac{\log\log_2\big(2\delta^{-1}\big)}{n}$

60 (Sz: 11to15)	
#	Expr
37	$\sum_{t_i\in D_n, t_i\leq t}$
34	$\big(y_{\pi(j)}-y_{\pi(j)-1}\big)$
29	$1-\Big(1-\frac{c}{\mu}M(\lvert t\rvert)\Big)z$
27	$N+\frac{1}{2}, k+3j+\frac{3}{2}$
24	$)^3_{t_{l-1}^n,t_l^n}$
23	$\frac{2n\sigma\left(S^{d-1}\right)}{2-\alpha}$
22	$(J_2^1(f_2^1),\ldots,J_2^n(f_2^n))$
22	$\widehat{J}\in A_{N-(p-1)}^{p-1}$
22	$\sum_{\widehat{J}\in A_{N-(p-1)}^{p-1}}$
20	$(f(X)-E[f(X)]\geq x)$

60 (Sz: 16to20)	
#	Expr
41	$\prod_{i=1}^{k}\epsilon_{j_i}\epsilon_{l_i}R^{-}_{j_i,l_i}$
22	$[(i(s)-1)\Delta_r,(i(s)+2)\Delta_r-1]$
16	$T^i_{N+\frac{1}{2},k+3j+\frac{3}{2}}$
14	$e^{A(t-s)+\int_s^t z(\theta_r\omega)dr}$
14	$A(t-s)+\int_s^t z(\theta_r\omega)dr$
13	$(t_1,\cdots,t_n;t_{n+1},\cdots,t_{n+m})$
13	$\prod_{i=1}^{k}\epsilon_{j_i}\epsilon_{l_i}R_{j_i,l_i}$
12	$(\omega_U,\omega_S^1,\omega_S^0,\widetilde{\omega}_S^1,\widetilde{\omega}_S^0)$
10	$B^{0,\beta}_{\frac{1}{2}R_\beta^0,\frac{1}{2}R_\beta}$

62 (Statistics)

62 (Sz: 2)	
#	Expr
1633	-1
774	$2k$
585	x_i
553	x_1
544	x_0
499	σ^2
492	τ_k
472	X_i
437	dx
426	P_n
402	ds
402	$\sqrt{n}$
369	X_j
367	nh
322	x^n

62 (Sz: 3)	
#	Expr
849	$i = 1$
737	$\frac{1}{2}$
627	$j = 1$
607	$1/2$
501	$k - 1$
443	$i - 1$
402	$\frac{1}{n}$
382	$k + 1$
305	$k = 1$
234	n^{-1}
215	$n - 1$
205	$m - 1$
199	$t + h$
195	n, j
186	$2 - \alpha$

62 (Sz: 4)	
#	Expr
265	$-1/2$
188	$Y^{(t+h)}$
162	S^{d-1}
142	$n^{1/2}$
137	τ_{k+1}
135	$\int_{-\infty}^{\infty}$
117	$\lim_{n\to\infty}$
95	$)^{1/2}$
88	$\frac{\partial}{\partial h}$
77	t_{s-1}
76	$\frac{1}{2\pi}$
72	r_{j-1}
69	$2k + 3$
68	(ds,dx)
68	$h^{\lambda-1}$

62 (Sz: 5)	
#	Expr
425	$\sum_{i=1}^{n}$
199	$\sum_{j=1}^{n}$
153	$n^{-1/2}$
117	$n-1, N$
93	$\sum_{k=1}^{n}$
70	$1 + o(1)$
68	$\sum_{i=1}^{N}$
64	$t + 1 \colon w$
62	$\sum_{k=1}^{\infty}$
62	$\sum_{i=1}^{m}$
56	$\frac{1}{2h^2}$
52	$[y_1, y_2]$
52	$1 + k^{-1}$
51	$\sum_{j=1}^{M}$
49	$\widehat{v}_{i-1}$

62 (Sz: 6)	
#	Expr
68	$\frac{X_j - x}{h}$
63	$\vartheta_{t+1 \colon w}$
55	$\frac{b-a}{2h}$
35	$\|f_\lambda - f\|_n^2$
35	$\tau_{p(\omega)+1}$
33	$\left\|\widetilde{f} - f\right\|_n^2$
33	$e^{\frac{1}{\mu h^\lambda}}$
31	$(1 + k^{-1})^2$
27	$e^{\frac{1}{2h^2}}$
27	$1 + 2s + \beta$

62 (Sz: 7)	
#	Expr
49	$F_{Y^{(t)}\|Z_t}$
35	$\delta \in (0, 1]$
30	m_j, r_{j-1}
27	$\frac{2-\alpha}{2n\alpha}$
26	$\frac{1}{\phi_k(s/h)}$
24	$\sum_{l=1}^{L-1}$
24	$\frac{1}{2h^2}s^2$
21	$\left(x^n \middle\| \widehat{\theta}(x^n)\right)$
20	$\frac{\partial \epsilon_k(\alpha)}{\partial \theta}$
18	$[\tau_k, \tau_{k+1}]$

62 (Sz: 8)	
#	Expr
34	$\inf_{\delta\in(0,1]}$
28	$X_j - (a + b)/2$
25	$2n\sigma\left(S^{d-1}\right)$
24	$e^{\frac{1}{2h^2}s^2}$
22	$\log\log_2(2\delta^{-1})$
21	$h^{\lambda-1}(X_j - x)$
19	$\alpha + n^{-1/2}\tau$
18	$\frac{c\alpha_j}{\alpha_j - 1}$
17	$-\frac{2\beta}{2\beta+1}$
16	$e^{\frac{1}{\mu}\left(\frac{\|s\|}{h}\right)^\lambda}$

62 (Sz: 9)	
#	Expr
23	$\frac{\partial^2 \epsilon_k(\alpha)}{\partial \theta^2}$
20	$(x\|\sigma, \beta, \theta, G)$
20	$H^{1/2}_{d_{P_n,2}}$
18	n, K, s, T, τ
17	$n^{-\frac{2\beta}{2\beta+1}}$
14	$\frac{\phi_w(s)}{\phi_k(s/h)}$
13	$\theta \in \Theta_{n,K,s}{}'$
13	$\Gamma(\alpha{+}1) + o(1)$
11	$\frac{n}{M}z(e^{it}{-}1)$
11	$\Gamma(\alpha{+}2) + o(1)$

62 (Sz: 10)	
#	Expr
28	$\frac{X_j - (a+b)/2}{h}$
24	$\left(\frac{2-\alpha}{2n\alpha}\right)^{2/3}$
22	$\frac{\log\log_2\left(2\delta^{-1}\right)}{n}$
18	$\Theta_{n,K,s,T,\tau}$
14	$(x\|\sigma, \beta, 0, \delta_0)$
13	$\sup_{\theta\in\Theta_{n,K,s}{}'}$
13	$E_{\epsilon_n}\phi_{\epsilon_n}^2 - \sigma^2$
12	$Y^{(\tau_{k+1})}\|Z_{\tau_k}$
12	$(g \circ f, g \circ f^2, \cdots)$
11	$\sigma\left(S^{d-1}\right)R^{1-\alpha}$

62 (Sz: 11to15)	
#	Expr
23	$\frac{2n\sigma\left(S^{d-1}\right)}{2-\alpha}$
20	$f(X) - E[f(X)] \geq x$
16	$Y^{(t+h)}\|Z_{\tau_k} = z$
15	$\left\|n^{-1}\sum_{i=1}^{n}\epsilon_i\delta_{X_i}\right\|$
15	$\left\|n^{-1}\sum_{i=1}^{n}g_i\delta_{X_i}\right\|$
14	$f_{nh}(x) - E\, f_{nh}(x)$
13	$\sup_{\theta\in\Theta_{n,K,s,T,\tau}{}'}$
13	$\epsilon_k\left(\alpha{+}n^{-1/2}\tau\right) \leq x$
13	$\theta \in \Theta_{n,K,s,T,\tau}{}'$
12	$\frac{n}{m}z\left(e^{it\frac{m}{n}}{-}1\right)$

62 (Sz: 16to20)	
#	Expr
8	$\frac{2-\alpha}{2n\sigma\left(S^{d-1}\right)^{1/(\alpha-1)}}$
8	$\left[u_n\left(x,\alpha+n^{-1/2}\tau\right)-\widetilde{u}_n(x,\alpha)\right]$
7	$\frac{\log N_m Q(f;\lambda(m))}{\log N_m}$
6	$Y^{\left(\tau_{p(\omega)+1}\right)}\left\vert Z_{\tau_{p(\omega)+1}}\right.$
5	$e^{is\frac{X_j-a}{h}}-e^{is\frac{X_j-b}{h}}$
5	$Var\left(\widehat{F}(t_{s-1})\right)+Var\left(\widetilde{F}(t_{s-1})\right)$
5	$\int\limits_{-\epsilon_n(\lambda/\mu)h^{-\lambda}}^{-(\lambda/\mu)h^{-\lambda}}$
5	$(U_1\in du_1 \,\vert\, \phi(x_0,U_1)=x_1)$
5	$e^{-(1+\epsilon)c\left(1+\delta^{\beta}\right)u^{-\beta/2}}$
4	$h^{\lambda(1+\alpha)+\lambda_0-1}e^{\frac{1}{\mu h^{\lambda}}}$

65 (Numerical analysis)

65 (Sz: 2)	
#	Expr
2661	-1
944	ij
786	x_1
772	x_i
594	L^2
579	$2k$
553	t_1
540	dt
540	x_0
514	σ_1
509	σ_2
504	dx
493	$2n$
475	h_k
445	t_0

65 (Sz: 3)	
#	Expr
1563	$\frac{1}{2}$
1128	$n+1$
807	$n-1$
706	$k+1$
558	$i+1$
529	$i=1$
470	ϵ, a
432	$i-1$
395	$k-1$
364	$1/2$
362	$j=1$
356	i,j
352	$k=0$
341	$j=0$
341	$j+1$

65 (Sz: 4)	
#	Expr
215	$(\Omega; R^2)$
170	(σ_1,σ_2)
164	$\int_{-1}^{1}$
115	$\int_{0}^{2\pi}$
110	x_{i+1}
98	$[-1,1]$
97	$\lim_{n\to\infty}$
94	(τ_1,τ_2)
91	(x_i,y_j)
84	(t_1,t_2)
83	$\frac{d}{dt}$
81	$\sum_{i,j}$
78	t_{i+1}
72	ξ_{k+1}
72	ξ_{l+1}

65 (Sz: 5)	
#	Expr
228	$i+\frac{1}{2}$
121	$j+1/2$
98	$\}_{n=0}^{\infty}$
91	$u_{\epsilon,a}^{\delta}$
81	u_h^{n+1}
77	$i-\frac{1}{2}$
73	$i+1/2$
72	$[n]_q^!$
70	$\frac{a+b}{2}$
68	$[(L-1)/2]$
68	$\sum_{s=0}^{\infty}$
66	(τ_2-t_2)
64	(τ_1-t_1)
64	$i-1/2$
64	$\sum_{i=1}^{n}$

65 (Sz: 6)	
#	Expr
114	$h_{i+\frac{1}{2}}$
77	$x_{i+\frac{1}{2}}$
66	$(\tau_2-t_2)^2$
64	$(\tau_1-t_1)^2$
63	$\vartheta_{t+1:\,w}$
40	$x_{i-\frac{1}{2}}$
36	$w^{\eta,\mu}-u$
35	$n+2k+1$
35	Δ_{h_k,ℓ_k}
32	$[(N_2-1)/2]$

65 (Sz: 7)	
#	Expr
72	$(a,b;c;z)$
55	$\sum_{k=0}^{n-1}$
43	$u_{\epsilon,a}^{\delta,i}$
42	$\int_{\xi_l}^{\xi_{l+1}}$
41	$i+1/2,j$
40	$\int_{\xi_k}^{\xi_{k+1}}$
40	$i+\frac{1}{2},j$
39	$\sum_{i=0}^{n-1}$
35	$T_{h,\lambda}-t^j$
33	$i,j+1/2$

65 (Sz: 8)	
#	Expr
26	$k_1k_2l_1l_2$
21	$\left(x_{i+\frac{1}{2}},y_j\right)$
18	$(\xi_i,\xi_j,\xi_k,\xi_l)$
17	$u_{\epsilon_n,a_n}^{\delta_n}$
16	$(I+kA+kB_n)$
16	$i+[(N_1-1)/2]$
16	$C^{0,p-var}$
16	$j+[(N_2-1)/2]$
15	$\Gamma_{\epsilon_n,a_n}^{\delta_n}$
14	$(x_{i+1}-\xi_i)^2$

65 (Sz: 9)	
#	Expr
24	$(k+1)^2+(l+1)^2$
22	$p_{k_1k_2l_1l_2}$
21	$\sum_{k=0}^{n-i-1}$
20	$\Gamma_{\epsilon,a}^{\delta,i-1}$
19	$u_h^n-u_h^{n-1}$
19	$h_{i+1}^- - h_i^+$
16	$k_j^{+2}-k_j^{-2}$
15	$h_i^{+2}-h_i^{-2}$
15	$\frac{d_q^n}{[n]_q^!}$
15	$\left(\beta_1^\pi,\ldots,\beta_{n-1}^\pi\right)$

65 (Sz: 10)	
#	Expr
24	$\left((k+1)^2+(l+1)^2\right)^\lambda$
16	$k=i-[(N_1-1)/2]$
16	$l=j-[(N_2-1)/2]$
14	$(I+kA+kB_n)^{-1}$
11	$\sum_{l=-m+1}^{m-1}$
10	$\frac{1}{L^{2-2\lambda}2^{2\lambda}}$
10	$(k^2+l^2)^{\lambda+1/2}$
9	$\frac{1}{f\left(\frac{l}{2m-1}\right)}$
8	$(\partial_1 u_i - u_x(x_i))^2$
8	$(\delta_{h_k,\ell_k}v_r^-)^2$

65 (Sz: 11to15)	
#	Expr
50	$(\tau_1 - t_1)^2 + (\tau_2 - t_2)^2$
44	$\left((\tau_1 - t_1)^2 + (\tau_2 - t_2)^2\right)^{\lambda}$
20	$\sum_{i+[(L-1)/2]}^{k=i+1}$
20	$\sum_{j+[(L-1)/2]}^{l=j+1}$
19	$\frac{u_h^n - u_h^{n-1}}{\Delta t}$
19	$\frac{h_{i+1}^- - h_i^+}{2}$
17	$s + \alpha\left(\frac{1}{p} - \frac{1}{2}\right), \alpha$
16	$\sum_{i+[(N_1-1)/2]}^{k=i+1}$
16	$\sum_{j+[(N_2-1)/2]}^{l=j+1}$
16	$\frac{1}{\left((k+1)^2 + (l+1)^2\right)^{\lambda}}$

65 (Sz: 16to20)	
#	Expr
15	$\frac{u(x_{i+1}) - u(x_i)}{h_{i+\frac{1}{2}}}$
10	$[a_1, b_2; a_2, b_2; \cdots; a_l, b_l]$
10	$(sin^2(\sigma_1/2) + sin^2(\sigma_2/2))^{\lambda}$
10	$(sin^2(\sigma_1/2) + sin^2(\sigma_2/2))$
8	$\frac{1}{\left((\tau_1 - t_1)^2 + (\tau_2 - t_2)^2\right)^{\lambda}}$
8	$\left[q\int_0^h \omega_1(t)dt + h\int_0^q \omega_2(t)dt\right]$
7	$\left(S^{g_{\epsilon_n}^{\delta_n}(t)}(v_n) \setminus \Gamma_{\epsilon_n, a}^{\delta_n}(t)\right)$
6	$\left\lvert f(x) - \frac{1}{b-a}\int_a^b f(t)dt \right\rvert$
6	$sin^2\frac{\sigma_1}{2} + sin^2\frac{\sigma_2}{2}$
6	$\left(sin^2\frac{\sigma_1}{2} + sin^2\frac{\sigma_2}{2}\right)^{\lambda}$

68 (Computer science)

68 (Sz: 2)	
#	Expr
3624	-1
1403	x_{1}
1309	ij
1028	p_{i}
1006	[0,1]
789	i_{1}
764	a_{1}
750	k_{1}
738	θ_{1}
737	X_{i}
695	x_{i}
690	θ_{2}
671	X^{0}
658	a_{i}
657	$[r]^{-}$

68 (Sz: 3)	
#	Expr
2088	$,\ldots,$
1125	$n-1$
1073	$n+1$
855	$i=1$
787	$\frac{1}{2}$
664	$1-z$
644	top
554	$j=1$
517	$i+1$
514	α,β
499	$k-1$
495	$m-1$
479	$i-1$
420	$(s+1)$
412	cat

68 (Sz: 4)	
374	α,β
320	$P^{(s+1)}$
194	I_{+}^{gl}
184	Y_{n-s}
173	$-1/2$
131	(G,G')
94	$\pi_{\alpha,n}$
87	k_{m+1}
68	$\lim_{n\to\infty}$
64	$2n+1$
63	ST_{2}^{-1}
62	$(H_{m}-1)$
61	$X_{\beta+1}$
58	(p_{i},p_{j})
55	$2k-1$

68 (Sz: 5)	
#	Expr
278	$n-s+1$
251	$n-r+1$
178	$\sum_{i=1}^{n}$
157	t_{1}^{top}
152	$I_{+}^{gl}cell$
127	$(1-z)^{-1}$
104	$[x_{1},\cdots,x_{n}]$
92	α,β,γ
82	$\sum_{j=1}^{n}$
74	$\theta_{1}\bigcap\theta_{2}$
73	$\theta_{1}\bigcup\theta_{2}$
68	$(n-s+1)$
66	$\prod_{i=1}^{n}$
64	$q_{S\times X}^{*}$
63	$\sum_{n=0}^{\infty}$
553	$V_{P^{(s+1)}}$

68 (Sz: 6)	
#	Expr
125	Y_{n-s+1}
122	Z_{n-r+1}
48	Y_{n-r+1}
45	$(a_{i}\mapsto f_{i})_{i}$
44	$(1-z)^{-\lambda_{j}}$
40	A^{n-s+1}
39	$(n-s+1)n$
36	$(cat(X),\ cat(U))$
32	$(k+1)(k+2)$
31	$(1+k^{-1})^{2}$

68 (Sz: 7)	
#	Expr
109	β_{ij}^{ik}
77	α_{ij}^{ik}
69	$(M;P,I,J)$
67	$\sum_{j=1}^{m-1}$
53	$f(\alpha),f(\beta)$
52	$\sum_{k=1}^{n-1}$
43	$i_{1},\ldots,i_{n}$
38	$A^{(n-s+1)n}$
34	$l_{1},\ldots,l_{s}$
30	$\sum_{i=1}^{n+1}$

68 (Sz: 8)	
#	Expr
40	$\left[1Ca,t_{1}^{top}\right]$
31	k_{1},k_{2},k_{3}
30	$x_{i_{1},\ldots,i_{n}}$
23	$\left\|1-z\right\|^{a+b+1}$
19	$(\theta_{1}\bigcap\theta_{2}\bigcap\theta_{3})$
16	$\{\theta_{1},\theta_{2},\theta_{3},\theta_{4}\}$
14	s_{1},s_{2},s_{3}
12	$\frac{2}{\Gamma(-1/2)}$
12	$(\leq f(x_{0}),x_{0})$
12	$\frac{(2k)!}{2^{k}k!}$

68 (Sz: 9)	
#	Expr
146	i,j,k,l,m
27	$\left\|e^{i\theta_{j}}-e^{i\theta_{k}}\right\|$
22	$(A,Z)_{\alpha,\beta}^{\gamma,\delta}$
20	$(\partial Z_{\beta},Z_{\beta},\phi_{\beta})$
17	$(f_{1d_{1}},\cdots,f_{nd_{n}})$
14	$(T=f\vert T=(p\bigcap b))$
14	$(1-z)^{-k\alpha'+1}$
11	$\sum_{j=0}^{n-(m-1)}$
11	$\frac{n-1-j}{m-2}$
11	i,j,m,l,k

68 (Sz: 10)	
#	Expr
42	$c_{i,j,k,l,m}$
30	$C_{i,j,k,l,m}$
27	$\left\|e^{i\theta_{j}}-e^{i\theta_{k}}\right\|^{2}$
22	$\frac{k}{k_{1},k_{2},k_{3}}$
18	$k_{1}+k_{2}+k_{3}=k$
18	$(M;P',I',J')$
15	$(X_{1}\bigcap X_{2}\bigcap\ldots\bigcap X_{k})$
14	$\left(M\,;P\,,I\,,J\right)$
10	$\bigsqcup_{(\alpha,\beta)\in Y^{0}\vec{Y}^{0}}$
10	$\frac{s}{s_{1},s_{2},s_{3}}$

68 (Sz: 11to15)	
#	Expr
19	$\left(\beta_{ij}^{ik}, \alpha_{ij}^{ik}\right)$
18	$X_1, X_2, \ldots, X_k \in D^{\Theta}$
18	$[\alpha\phi(0)\phi(1)\phi(0)\phi(1)]$
15	$\frac{(1-z)^{-\lambda_j}}{\psi'(\lambda_j)}$
14	$\lvert 1-z\rvert^{-k\alpha'+1+(2\alpha-\epsilon)}$
14	$k_1, \ldots, k_m, k_{m+1}$
14	$-k\alpha' + 1 + (2\alpha - \epsilon)$
14	$\frac{k}{k_1,\ldots,k_m,k_{m+1}}$
13	$C_{\,i,j,k,l,m}$
12	i_1, j_1, k_1, l_1, m_1

68 (Sz: 16to20)	
#	Expr
8	$1 - \frac{m!\Gamma(k\beta+1)}{\Gamma(k\beta+m)}$
8	$\left(A^{(n-s+1)n} \times A^{n-s+1} \times V_s\right)$
7	$i, \pi(j), \pi(k), \pi(l), \pi(m)$
6	$C_{\,i,\pi(j),\pi(k),\pi(l),\pi(m)}$
6	$(a_1b_1c_2 + a_1b_2c_1 + a_2b_1c_1)$
6	$(a_1b_1c_3 + a_1b_3c_1 + a_3b_1c_1)$
6	$\left[1 - \frac{m!\Gamma(v+1)}{\Gamma(v+m)}\right]^{-1}$
6	$\lvert 1-z\rvert^{-(k_1+k_2)\alpha'+1+(2\alpha-\epsilon)}$
6	$\frac{C_{k_1}C_{k_2}}{4\Gamma((k_1+k_2)\alpha'-1)}$
5	$\left(1 - \frac{m!\Gamma(\beta+1)}{\Gamma(\beta+m)}\right)^{-1}$

70 (Mechanics of particles and systems)

70 (Sz: 2)	
#	Expr
1790	-1
1033	q_e
776	ij
698	$2n$
682	T^*
570	x_1
549	$\dot{q}$
547	t_0
535	x_i
520	$\nu_\circ$
491	$\widetilde{\nabla}$
484	dt
458	S^1
368	$\dot{x}$
353	∂_L

70 (Sz: 3)	
#	Expr
825	$\frac{1}{2}$
602	$n-1$
599	$k+1$
465	$s=1$
412	$i=1$
393	$r=1$
348	v_{q_e}
343	$q=1$
294	$k=1$
260	$j=1$
251	-1
239	$k-1$
228	$i+1$
213	$m=1$
210	$N-1$

70 (Sz: 4)	
#	Expr
123	$\frac{d}{dt}$
98	$W^{1,p}$
82	$\int_0^{2\pi}$
69	$e_{\lambda,i}$
65	$-1/2$
56	$A^{0,p}$
53	(ϕ_0,ϕ_1)
52	θ_{k+1}
50	g_{k+1}
50	$(q_e)^{-1}$
50	(τv_{q_e})
49	$\partial \dot{q}^a$
48	$-2/3$
48	$-1/3$
48	$q(t_0)$
47	(R,R')
44	$\frac{1}{\nu_\circ}$
44	$v^0_{q_e}$
42	s_{m-1}
41	$f_{\lambda,i}$

70 (Sz: 5)	
#	Expr
446	$\sum_{s=1}^{n}$
382	$\sum_{r=1}^{n}$
343	$\sum_{q=1}^{n}$
196	$\sum_{m=1}^{n}$
187	$\sum_{a=1}^{n}$
176	$\sum_{k=1}^{n}$
133	$\sum_{i=1}^{n}$
113	$\sum_{c=1}^{n}$
104	$\sum_{b=1}^{n}$
86	$\sum_{j=1}^{n}$
63	$\sum_{i=1}^{n}$
61	X^e_{+++}
48	$\sum_{e=1}^{n}$
43	$\|\|^2_{L^2(\Sigma)}$
35	$\frac{\partial}{\partial x_j}$

70 (Sz: 6)	
#	Expr
111	$j_1 \dots j_s$
111	$i_1 \dots i_r$
52	$\frac{\partial H}{\partial p_s}$
52	$\frac{\partial H}{\partial p_r}$
50	$\frac{\partial H}{\partial x^r}$
50	$\frac{\partial H}{\partial x^s}$
36	$(x^1,\dots,x^n,v)$
29	$\frac{\partial L}{\partial x^i}$
27	$(x^1,\dots,x^n,w)$
26	$I_0^{-2/3}$

70 (Sz: 7)	
#	Expr
33	$\left(Exp_{q_e}(\tau v_{q_e})\right)$
27	$(\phi, J_0; J')$
25	$\sum_{h=1}^{n-1}$
23	$\frac{\partial n_r}{\partial y^j}$
21	$\frac{\partial n_s}{\partial y^i}$
19	$[g,\ \rho,\ v]$
18	$\frac{\partial L}{\partial \dot{q}^A}$
17	$\left(H, \widetilde{J}; \widehat{z}\right)$
16	$\sum_{k=3}^{n+1}$
16	$\partial y^i\, \partial y^j$

70 (Sz: 8)	
#	Expr
25	$\frac{\partial \Psi^\alpha}{\partial \dot{q}^a}$
23	$2\lambda, e_i \bar{e}_j$
17	$(R, R', k_p p)$
14	$\frac{\nabla_s H}{\Omega} - Q_s$
13	$g_k^{-1} g_{k+1}$
12	$(x, \omega^x(x,t), t)$
12	$\partial \dot{q}^a \partial \dot{q}^b$
12	$\frac{\partial \widetilde{L}}{\partial \dot{q}^a}$
11	$h^{-1}(h(\varphi)+\pi)$
11	(t_1,t_2,t_3,t_4)

70 (Sz: 9)	
#	Expr
18	$(x,t\|x_0,t_0)$
16	$\left(\gamma(t), \dot{\gamma}(t), t\right)$
15	$2, \bar{e}_i, \bar{e}_j$
14	$J_{13}q_1 + J_{23}q_2$
12	$e_{2\lambda, e_i \bar{e}_j}$
11	$f_{2\lambda, e_i \bar{e}_j}$
10	$(x_1,y_1,\cdots,x_n,y_n)$
9	$X^{e'}_{\beta_1\beta_2\beta_3}$
8	$C^{\cdot}_{Z_p/\Lambda_p,0}$
8	$\|u^*\Xi\|_\Sigma - \Xi\|_\Sigma\|$

70 (Sz: 10)	
#	Expr
24	$\frac{1}{\Omega}\frac{\partial H}{\partial p_r}$
21	$(x^1,\dots,x^n,v^1,\dots,v^n)$
18	$\left[v^0_{q_e}\right], \mu^0_1, \mu^0_2$
15	$C_{2,\bar{e}_i,\bar{e}_j}$
15	$\left(\frac{1}{\Omega}\frac{\partial H}{\partial p_s}\right)$
13	$(x^1,\dots,x^n,p_1,\dots,p_n)$
13	$(S^1 \times Y, T^*Y \bigotimes g)$
12	$(x, \partial_x v(x,t), t)$
11	$i_1 \dots \dots \dots i_r$
11	$j_1 \dots b_k \dots j_s$

70 (Sz: 11to15)	
#	Expr
103	$X^{i_1\cdots i_r}_{j_1\cdots j_s}$
35	$\partial X^{i_1\cdots i_r}_{j_1\cdots j_s}$
18	$\frac{1}{\Omega}\frac{\partial H}{\partial x^r} - Q_r$
15	$\frac{1}{\Omega}\frac{\partial H}{\partial x^s} - Q_s$
12	$\frac{\partial^2 H}{\partial p_q\,\partial p_k}$
11	$\frac{\partial^2 \nu}{\partial y^i\,\partial y^j}$
9	$a^{(m-1)}_{s_{m-1}s_{m-1}}$
9	$(c_1 - c_2, b_1 - b_2)$
8	$\frac{\partial^2 L}{\partial v^i\,\partial v^s}$
8	$(Y'_1(q_0), \cdots, Y'_m(q_0))$

70 (Sz: 16to20)	
#	Expr
13	$(x^1, \ldots, x^n, W(x^1,\ldots,x^n,v))$
8	$(v_0 + v_1(v_0,\alpha,\lambda,\xi), \alpha, \lambda, \xi)$
6	$\frac{\partial X^{i_1\cdots i_r}_{j_1\cdots j_s}}{\partial x^m}$
6	$\frac{\partial X^{i_1\cdots i_r}_{j_1\cdots j_s}}{\partial x^q}$
6	$\left(X^e_{\alpha_1\alpha_2\alpha_3}, X^{e'}_{\beta_1\beta_2\beta_3}\right)$
5	$\left(\theta, I_0 + \frac{9}{10}\alpha_1^{-1} I_0^{2/3} J, \xi\right)$
4	$\frac{\partial X^{i_1\cdots i_r}_{j_1\cdots j_s}}{\partial v^b}$
4	$f^0_{N-1}\bar{f}^0_{N-1} + f^0_N \bar{f}^0_N$
4	$\int_{P_{\alpha_0}..\sigma^{-n+1}P_{\alpha_{n-1}}-\bar{\gamma}}$
4	$(1 + w\bar{w})(\partial_L w \partial_R \bar{w} - \partial_R w \partial_L \bar{w})$

74 (Mechanics of deformable solids)

74 (Sz: 2)	
#	Expr
1106	dx
886	L^2
554	H^1
540	R^2
523	Ω
523	[0,T]
515	H^1
511	ϵ_n
433	$\int_\Omega$
412	-1
378	R^m
376	∂_D
373	[0,1]
363	r^ϵ
351	u_n

74 (Sz: 3)	
#	Expr
470	ϵ, a
438	$N-1$
255	$\frac{1}{2}$
245	$i-1$
239	$n-1$
190	SBV
168	$i=1$
165	t^δ_i
159	$j-1$
145	$\Omega \setminus K$
142	GSB
142	$1, 2$
137	$n+1$
135	$1, p$
131	$r+1$

74 (Sz: 4)	
#	Expr
337	H^{N-1}
299	$(\Omega; R^2)$
122	H^{n-1}
102	$L^{1,2}$
97	$(\Omega; R^m)$
89	$W^{1,p}$
81	$(U; R^m)$
78	$S^{g(t)}$
69	ϵ_n, h
62	$\int_{\Omega\setminus K}$
59	ϵ_n, a
58	$w^{\eta,\mu}$
55	$M^{m\times n}$
43	$(x', 0)$
41	$\left(\Omega; R^N\right)$

74 (Sz: 5)	
#	Expr
99	ϵ_n, h_n
91	$u^\delta_{\epsilon,a}$
78	u^{n+1}_h
70	s^{i-1}_k
63	$\delta, i-1$
59	ϵ_n, a_n
48	u^{n-1}_h
47	$r, \partial_S\Omega$
45	$\sum_{j=1}^{3}$
42	F^2_{pot}
39	u^δ_{i-1}
38	g^δ_{r+1}
37	$g^{\delta_n}_{\epsilon_n}$
36	t^δ_{r+1}
36	t^δ_{i+1}
535	$H^1_{\Gamma,s}$

74 (Sz: 6)	
#	Expr
36	$w^{\eta,\mu} - u$
34	$(r^\epsilon x', 0)$
32	u_{ϵ_n,h_n}
31	$\sum_{n=1}^{N'}$
31	$(\partial_S\Omega; R^m)$
28	$\sum_{i=1}^{i_k}$
25	v_{ϵ_n,h_n}
25	$\sup_{0\le t\le T}$
20	$u^\delta_{\epsilon,a}(\tau)$
20	$(\Omega; M^{2\times 2})$
19	$([0,1]; H^1(\Omega))$
19	$(u(t),v(t))$
18	$g^{\delta_n}_{\epsilon_n}(t)$
18	$(\Omega; M^{m\times n})$
17	$(U; M^{m\times n})$
16	$\lvert x_3 = -1$
16	$(x_K, t_{\ell-1})$
16	σ^{-1}_{sym}
15	$b^j_{\epsilon_n,h}$
14	$\partial\Delta^{\pi,\sigma}_k$

74 (Sz: 7)	
#	Expr
75	$(g(t), K(t))$
43	$u^{\delta,i}_{\epsilon,a}$
34	$(g(t), K(s))$
30	$u^{\delta_n}_{\epsilon_n,a}$
30	$(g(s), K(s))$
28	$(t, x, u(x))$
27	$(u(t), \Gamma(t))$
25	$(L^2(\Omega^a))^{3\times 3}$
25	$\left(L^2\left(\Omega^b\right)\right)^{3\times 3}$
23	$\Gamma^{\delta,i}_{\epsilon,a}$
21	$(S_R\Theta_y U + T)$
21	$(u(t), \Gamma(t))$
19	$L^\infty(0,T;V)$
18	$S^{g^{\delta_n}_{\epsilon n}(t)}$
17	$(r^\epsilon x', x_3)$
17	$(\psi(t), \Gamma(t))$
16	$\Gamma^{\delta_n}_{\epsilon_n,a}$
15	$\delta_h \bar{u}_{i,j}$
14	$u_k(s) + \varphi_k(s)$
14	$g^{\delta,i-1}_{\epsilon}$

74 (Sz: 8)	
#	Expr
20	$(0, 1; H^1(\omega^a))$
17	$u^{\delta_n}_{\epsilon_n,a_n}$
15	$\Gamma^{\delta_n}_{\epsilon_n,a_n}$
11	$\left(S(v_k) \setminus \Gamma^N_k\right)$
11	$L^2(Q_{i,j},\mathbb{R}^2)$
11	$(u(t), \sigma_i(t))^2$
10	$\bigcup_{s\le t, s\in D}$
10	$\frac{\partial u^a_\alpha}{dx_3}$
8	$\left(u^{a\epsilon}, u^{b\epsilon}\right)$
8	$(\eta_{\epsilon_n} + v^2_n(\tau))$
8	$\lvert\nabla(\delta_h \bar{u}_{i,j})\rvert$
8	$a_2(x_i) - \frac{\delta}{2}$
7	$\lVert_{L^2(0,T;V)}$
7	$(\nabla u_k(s) + \Psi_k(s))$
7	$\left\lVert\nabla u^{\delta,i}_{\epsilon,a}\right\rVert$
7	$\left\lVert\dot{\psi}(s)\right\rVert_{r,\partial_S\Omega}$
6	$u^b_{\lvert x_3=-1}$
6	$(u_j - u_{j-1})^2$
6	$\left(-\frac{\pi}{2}, \frac{\pi}{2}\right)$
6	$\frac{\partial u^a_3}{\partial x_\alpha}$

74 (Sz: 9)	
#	Expr
36	$\int_{t^\delta_r}^{t^\delta_{r+1}}$
28	$\int_{s^{i-1}_k}^{s^i_k}$
27	$\left(s^i_k - s^{i-1}_k\right)$
21	$\int_{t^{j-1}_k}^{t^j_k}$
20	$\Gamma^{\delta,i-1}_{\epsilon,a}$
19	$u^n_h - u^{n-1}_h$
17	$\left(\omega^b; H^1(-1,0)\right)$
15	$\int_{t^\delta_{i-1}}^{t^\delta_i}$
14	$u^{\delta,i-1}_{\epsilon,a}$
10	$\left(\int_{-1}^{1} W^2_X dX\right)$

74 (Sz: 10)	
#	Expr
10	$\left(\int_{-1}^{1} W^2_X dX\right)^2$
9	$\left\lVert u^\delta_h - u^\delta_{h-1}\right\rVert^2$
8	$E^n_{a_2(x_i)-\frac{\delta}{2}}$
7	$\left\lVert\nabla\dot{g}(\tau)\right\rVert_{L^2(\Omega;R^N)}$
6	$\left(\nabla u(\tau,t) \lvert \nabla\dot{g}(\tau)\right)$
6	$(u(t), \Gamma_i(\sigma), B_i)$
5	$\frac{u^1_h - u^0_h}{\Delta t}$
5	$(x^{\epsilon,a}_T, \nu^{\epsilon,a}_T)$
5	$u^{b\epsilon}_{\lvert x_3=-1}$
5	$v^{h_n,a_n}_{k_m,m}$

74 (Sz: 11to15)	
#	Expr
19	$\frac{u^n_h - u^{n-1}_h}{\Delta t}$
12	$\left(\eta_{\epsilon_n} + v^2_{\epsilon_n,h_n}(t)\right)$
11	$\left(u^\delta_{\epsilon,a}(\tau) + w^\delta_{\epsilon,a}(\tau)\right)$
10	$[A^a e^{a\epsilon}, e^{a\epsilon}]$
9	$(V_X + U_Y + 2W_X W_Y)$
9	$\left[A^b e^{b\epsilon}, e^{b\epsilon}\right]$
8	$(V_X + U_Y + 2W_X W_Y)^2$
8	$\left(u^{j-1}_k + \psi^j_k - \psi^{j-1}_k\right)$
8	$\lVert w^{\eta,\mu} - u\rVert_{L^\infty(0,T;V)}$
7	$(\Omega \setminus K_n, \partial_D\Omega \setminus K_n)$

74 (Sz: 16to20)	
#	Expr
7	$\left\lVert\nabla u^\delta_r + \nabla g^\delta_{r+1} - \nabla g^\delta_r\right\rVert$
7	$\left\lVert\nabla u^\delta_r + \nabla g^\delta_{r+1} - \nabla g^\delta_r\right\rVert^2$
7	$\left(S^{g^{\delta_n}_{\epsilon n}(t)}(v_n) \setminus \Gamma^{\delta_n}_{\epsilon_n,a}(t)\right)$
6	$\left(S(v^i_k) \setminus \Gamma^N_k\right) \setminus \left(S(v^i) \setminus \Gamma^N\right)$
6	$\left(\sum_n \Delta^1_n\right)^\alpha + \left(\sum_n \Delta^2_n\right)^\alpha + \left(\sum_n \Delta^3_n\right)^\alpha$
6	$\left(\zeta^b_\alpha(r^\epsilon x') + \epsilon v^b_\alpha(r^\epsilon x', 0)\right)$
6	$\lvert\nabla(\delta_h \bar{u}_{i,j})\rvert_{L^2(Q_{i,j},\mathbb{R}^2)}$
5	$\lvert\xi - \sigma(a,E,\mu)l\rvert^2_{\sigma^{-1}_{sym}(a,E,\mu)}$
5	$\nabla u^\delta_{i-1} + \nabla g^\delta_i - \nabla g^\delta_{i-1}$
4	$\lvert H(x, \Phi_k(x) + \Psi_k(x)) - H(x, \Phi_k(x))\rvert$

76 (Fluid mechanics)

76 (Sz: 2)	
#	Expr
1676	L^2
917	Ω_0
897	-1
831	R^3
679	(x,t)
642	dt
496	Γ_0
486	L^∞
443	u_0
430	H^1
417	t_0
412	ds
377	∂_t
369	(t,x)
343	dx

76 (Sz: 3)	
#	Expr
1254	$\frac{1}{2}$
532	$\int_0^t$
445	s,t
280	$n+1$
231	R^3_+
222	$\int_0^T$
141	$t-\tau$
136	$\int_0^1$
136	$i=1$
132	div
127	t,x
114	$3,\infty$
113	$\frac{3}{2}$
113	$\widetilde{u}_0$
98	$Y(s)$

76 (Sz: 4)	
#	Expr
206	$-\frac{1}{2}$
140	$\frac{d}{dt}$
118	$H^{\frac{1}{2}}$
108	$(\Gamma_0;R)$
96	$(\Omega_0;R)$
89	$V^{Y(s)}$
80	$\varphi_{s,t}$
66	$\epsilon^{11/2}$
60	$2n-1$
59	$W^{1,4}$
58	$K_{s,t}$
57	$\eta(t,\cdot)$
55	e^{1-z}
53	$t-t_0$
51	$V^{\widetilde{Y}(s)}$

76 (Sz: 5)	
#	Expr
442	$(\Omega_0;R^3)$
181	$(\Omega_0;R^9)$
173	$H^{-\frac{1}{2}}$
139	$(\Gamma_0;R^3)$
53	$S_{\eta(t,\cdot)}$
45	L^2_{loc}
43	$\sum_{i=1}^N$
39	$\left(R^3_+;R\right)$
36	$(u_0,\widetilde{u}_0)$
34	$(\Gamma_0;R^9)$
33	$(\omega_1,\bar{\omega}_2)$
31	$\frac{\phi(s,x)}{\epsilon}$
31	u_{k-k_1}
31	t^n_{k+1}
31	$1-3/p$

76 (Sz: 6)	
#	Expr
88	$\left(R^3_+;R^3\right)$
35	$1-e^{1-z}$
34	$\omega_0 Re\,\Delta t$
28	$(\lambda x,\lambda^2 t)$
27	$\partial y^\alpha \partial y^\beta$
24	$(\log L)^{1/4}$
23	$-(t-\tau)\lvert\xi\rvert^2$
22	$\sup_{\xi\in IR^3}$
22	$H^{\frac{1}{2}+\epsilon}$
21	$\sup_{0\le t\le T}$

76 (Sz: 7)	
#	Expr
67	$L^2(\Omega_0;R^3)$
57	$H^2(\Omega_0;R^9)$
47	$H^3(\Omega_0;R^3)$
42	$(0,T;L^2(\Omega))$
35	$H^1(\Omega_0;R^3)$
32	$H^2(\Omega_0;R^3)$
32	$e^{\omega_0 Re\,\Delta t}$
24	$(1-3/p)/2$
23	$L^2(\Gamma_0;R^2)$
23	$e^{-(t-\tau)\lvert\xi\rvert^2}$

76 (Sz: 8)	
#	Expr
24	$L^2\left(R^3_+;R^3\right)$
23	$t^{(1-3/p)/2}$
21	$\frac{a^T N}{\lvert a^T N\rvert^2}$
20	$H^1(\Omega_0;R^3)'$
18	$\lVert w\rVert_{H^3(\Omega_0;R^3)}$
18	$\sum_{k=0}^{2^n-1}$
14	$e^{-\frac{\tau-\tau'}{2}}$
14	$(u_0,\widetilde{u}_0,\cdot)$
14	$\left\lVert Y-\widetilde{Y}\right\rVert_{D_{X,T}}$
13	$W^{1,4}(\Omega_0;R)$

76 (Sz: 9)	
#	Expr
33	$W^{1,4}(\Omega_0;R^9)$
25	t^n_k,t^n_{k+1}
23	$(v-\widetilde{v},q-\widetilde{q})$
20	$L^2(\Omega_0;R^3)$
17	$\frac{2n-2}{2n-1}$
15	$L^2(\Omega_0;R^9)$
14	$\left(b',0,(t-\tau)_+\right)$
14	$H^{\frac{1}{2}}(\Gamma_0;R^3)$
13	$(\epsilon(\alpha-t),\epsilon^3 t)$
13	$(\epsilon(\alpha+t),\epsilon^3 t)$

76 (Sz: 10)	
#	Expr
43	$H^{-\frac{1}{2}}(\Gamma_0;R^3)$
23	$H^{-\frac{1}{2}}(\Gamma_0;R^9)$
19	$M_{t^n_k,t^n_{k+1}}$
14	$(0,T;L^2(\Omega_0;R))$
13	$\frac{\partial^2 w}{\partial y^\alpha \partial y^\beta}$
13	$\frac{\partial^2 Id}{\partial y^\alpha \partial y^\beta}$
10	$\lVert w_0\rVert^2_{L^2(\Omega_0;R^3)}$
9	$L^2(R^3_+;R^3)$
8	$(0,T;H^2(\Omega_0;R))$
8	$(t-s)^{\frac{1}{2}}s^{\frac{1}{2}}$

76 (Sz: 11to15)	
#	Expr
57	$(0,T;H^1(\Omega_0;R^3))$
47	$L^2(0,T;H^1(\Omega_0;R^3))$
39	$\big(0,T;H^1(\Omega_0;R^3)'\big)$
33	$L^2\big(0,T;H^1(\Omega_0;R^3)'\big)$
31	$\big(S_{\eta(t,\centerdot)}(w,r)\centerdot a^T N\big)$
31	$(0,T;H^3(\Omega_0;R^3))$
26	$L^2(0,T;H^3(\Omega_0;R^3))$
23	$\Big(0,T;H^{-\frac{1}{2}}(\Gamma_0;R)\Big)$
23	$L^2\Big(0,T;H^{-\frac{1}{2}}(\Gamma_0;R)\Big)$
22	$\Big(0,T;H^{-\frac{1}{2}}(\Gamma_0;R^3)\Big)$

76 (Sz: 16to20)	
#	Expr
20	$L^2\Big(0,T;H^{-\frac{1}{2}}(\Gamma_0;R^3)\Big)$
11	$\frac{e^{-\frac{\tau-\tau'}{2}}}{a(\tau-\tau')^{\frac{1}{2}}}$
7	$\|f_t\|_{L^2\left(0,T;H^1(\Omega_0;R^3)'\right)}$
7	$\big(\Psi^z+\epsilon^{11/2}R^z,\Psi^y+\epsilon^{11/2}R^y\big)$
6	$\|g\|^2_{L^2\left(0,T;H^{-\frac{1}{2}}(\Gamma_0;R^3)\right)}$
6	$\Big\|\partial_t\Big(N\centerdot g^{\alpha\beta}\frac{\partial^2 Id}{\partial y^\alpha\partial y^\beta}\Big)\Big\|$
6	$\|w_m\|^2_{L^2\left(0,\widetilde{T};H^1(\Omega_0;R^3)\right)}$
6	$[J(\triangle^{-1}\omega,\omega)-J(\triangle^{-1}\bar{\omega},\bar{\omega})]$
6	$([0,T],W^{s-1,\infty}(R^2)\times W^{s,\infty}(R^2))$
6	$(1-e^{1-z})(1-\gamma(y))-e^{1-z}$

78 (Optics, electromagnetic theory)

78 (Sz: 2)	
#	Expr
480	σ_2
445	σ_1
316	τ_2
312	τ_1
266	-1
198	Δt
198	t_1
195	n^2
193	t_2
188	kl
184	si
182	$\bar{\xi}$
176	s_1
168	s_2
168	$2n$

78 (Sz: 3)	
#	Expr
120	$n-1$
116	$l+1$
115	$\frac{1}{2}$
109	$k+1$
108	Δ_{kl}
108	$L-1$
102	$k=0$
98	$l=0$
75	$l-1$
73	$n+1$
70	$m-1$
69	$k-1$
68	$L-1$
67	$\bar{\xi}_1$
54	$\cos\theta$

78 (Sz: 4)	
#	Expr
170	(σ_1,σ_2)
108	$\int_0^{2\pi}$
105	$\int_{-1}^{1}$
94	(τ_1,τ_2)
84	(t_1,t_2)
73	ξ_{k+1}
72	ξ_{l+1}
58	(s_1,s_2)
54	ξ_{k-1}
54	ξ_{l-1}
54	$\int_{\Delta_{kl}}$
34	$2n-1$
32	N_1-1
32	N_2-1
32	$2n+1$

78 (Sz: 5)	
#	Expr
68	$[(L-1)/2]$
66	τ_2-t_2
64	τ_1-t_1
37	$(\rho,\cos\theta)$
36	$l=j+1$
36	$k=i+1$
30	$(1+o(1))$
30	σ_2-s_2
28	σ_1-s_1
24	$R_{n_1n_2}$
23	$2k_0+2$
22	$\sum_{n=1}^{\infty}$
20	$L^{2-2\lambda}$
19	$(-1)^{m+1}$
18	$m-2k_0$
516	$\left(\frac{L}{2}\right)^{2\lambda}$

78 (Sz: 6)	
#	Expr
66	$(\tau_2-t_2)^2$
64	$(\tau_1-t_1)^2$
32	$[(N_2-1)/2]$
32	$[(N_1-1)/2]$
30	$\prod_{l=0}^{n-1}$
28	$\bar{\xi}_k$
26	$\bar{\xi}_{k-1}$
26	$\bar{\xi}_l$
26	$\bar{\xi}_{l-1}$
26	$d\tau_1 d\tau_2$
25	$[\psi+(m-1)\beta]$
24	$d\sigma_1 d\sigma_2$
12	$\prod_{k=0}^{n-1}$
11	$\bar{\xi}_{2k_0+2}$
11	$\bar{\xi}_{2k+1}$
10	$\sigma_2-x'_j$
10	$ds_1 ds_2$
10	$\prod_{j=0}^{L-1}$
10	$\sigma_1-x'_i$
10	$\alpha+2-2\lambda$
10	$\prod_{i=0}^{L-1}$
8	a_{2k_0+1}

78 (Sz: 7)	
#	Expr
42	$\int_{\xi_l}^{\xi_{l+1}}$
40	$\int_{\xi_k}^{\xi_{k+1}}$
39	$\sum_{k=0}^{n-1}$
30	$\frac{\sigma_2-s_2}{2}$
28	$\frac{\sigma_1-s_1}{2}$
26	(x'_k,x'_l)
22	$\sum_{j=0}^{L-1}$
22	$\prod_{i=0}^{L-1}$
20	$j+[(L-1)/2]$
20	$i+[(L-1)/2]$
516	$\prod_{l=0}^{L-1}$

78 (Sz: 8)	
#	Expr
26	$k_1k_2l_1l_2$
20	$\sum_{m=1}^{2^n-1}$
18	$(\xi_i,\xi_j,\xi_k,\xi_l)$
16	$i+[(N_1-1)/2]$
16	$j+[(N_2-1)/2]$
15	$[\psi-(m-2k_0)\beta]$
13	$[(m-2k_0-1)\beta]$
12	$\left(a^2-l^2\sin^2 v\right)$
10	$\sum_{m=0}^{N_d-1}$
10	$\frac{\sigma_2-x'_j}{2}$
59	$(k,\eta',\widetilde{\eta}')$

78 (Sz: 9)	
#	Expr
24	$\left((k+1)^2+(l+1)^2\right)$
22	$p_{k_1k_2l_1l_2}$
12	$k=i-[(L-1)/2]$
11	$T_m^{u_j^0,u_j^1}$
10	$l=j-[(L-1)/2]$
9	$\frac{C(k,R)}{\max(1,n)}$
8	$\frac{c}{n^{\alpha+2-2\lambda}}$
8	$\left(\lvert k-i\rvert^2+\lvert l-j\rvert^2\right)$
8	$j+1+[(n-1)/2]$
8	$i+1+[(n-1)/2]$

78 (Sz: 10)	
#	Expr
24	$\left((k+1)^2+(l+1)^2\right)^{\lambda}$
16	$k=i-[(N_1-1)/2]$
16	$l=j-[(N_2-1)/2]$
10	$\frac{1}{L^{2-2\lambda}2^{2\lambda}}$
10	$(k^2+l^2)^{\lambda+1/2}$
6	$n-1+[R_{r1}(1)]^{1/r}$
6	$\Delta_{k+i,j-l-1}$
6	$\Delta_{i-k-1,j+l}$
5	$[\psi-(m-2k_0-1)\beta]$
4	$\frac{(2+o(1))\gamma}{1+\alpha}$

78 (Sz: 11to15)	
#	Expr
50	$(\tau_1-t_1)^2+(\tau_2-t_2)^2$
44	$\left((\tau_1-t_1)^2+(\tau_2-t_2)^2\right)^{\lambda}$
20	$\sum_{k=i+1}^{i+[(L-1)/2]}$
20	$\sum_{l=j+1}^{j+[(L-1)/2]}$
16	$\sum_{k=i+1}^{i+[(N_1-1)/2]}$
16	$\sum_{l=j+1}^{j+[(N_2-1)/2]}$
16	$\frac{1}{\left((k+1)^2+(l+1)^2\right)^{\lambda}}$
16	$\underset{k=i-[(N_1-1)/2]}{i-1}$
14	$(\xi_i,\xi_j,\xi_{k-1},\xi_{l-1})$
14	$(\xi_i,\xi_j,\xi_{k+1},\xi_{l+1})$

78 (Sz: 16to20)	
#	Expr
10	$[a_1,b_2;a_2,b_2;\cdots;a_l,b_l]$
10	$(sin^2(\sigma_1/2)+sin^2(\sigma_2/2))^{\lambda}$
10	$sin^2(\sigma_1/2)+sin^2(\sigma_2/2)$
8	$\frac{1}{\left((\tau_1-t_1)^2+(\tau_2-t_2)^2\right)^{\lambda}}$
8	$\left[q\int_0^h\omega_1(t)dt+h\int_0^q\omega_2(t)dt\right]$
6	$sin^2\frac{\sigma_1}{2}+sin^2\frac{\sigma_2}{2}$
6	$\left(sin^2\frac{\sigma_1}{2}+sin^2\frac{\sigma_2}{2}\right)^{\lambda}$
6	$\left((\tau_1-t_1)^2+(\tau_2-t_2)^2\right)^{\lambda}+h$
6	$\frac{1}{(k^2+l^2)^{\lambda+1/2-\alpha/2}}$
6	$f(\sigma_1,\sigma_2)-f(x'_k,x'_l)$

80 (Classical thermodynamics, heat transfer)

80 (Sz: 2)	
#	Expr
202	q_k
146	Δ_τ
123	V^0
117	-1
91	$\widetilde{g}$
85	X^*
84	j_2
83	j_1
71	$(0,t)$
70	t_k
69	u_0
69	D_1
68	v_0
65	H_d
64	p_k
561	D_2
561	(a,c)

80 (Sz: 3)	
#	Expr
186	$k+1$
171	q_k^d
131	Δ_τ^d
101	p_k^d
90	$t-\tau$
80	$k-1$
57	$\frac{1}{2}$
57	$n-1$
52	$1,k$
45	$k=0$
43	$\int_{R^\pm}$
35	x_k^d
35	t_k^d
34	$\int_0^t$
34	$2,k$

80 (Sz: 4)	
#	Expr
97	p_{k+1}
35	q_{k+1}
32	$X \times X^*$
26	$e^{-\gamma t}$
25	q_{k-1}
24	$x-s(t)$
24	$\nu_{x,y}$
22	$\int_{-\infty}^{\infty}$
18	π_k^{-1}
17	t_{k+1}
17	$U(su_2)$
15	μ_{k-1}
15	$\|v-\widetilde{v}\|$
15	$(x-\xi)^2$
14	$[w_x(0,t)]$

80 (Sz: 5)	
#	Expr
38	$(c \,\|\, b)$
24	$x-s(t)$
19	$\{c \,\|\, b\}$
19	$\{c \,\|\, a\}$
16	$\frac{x^2}{4t}$
16	$\omega_{1,k}^d$
13	$\|s(t)-x\|$
12	$\omega_{2,k}^d$
10	$(x-s(\tau))$
10	$M_{1,k}^d$
9	$\sum_{c\in X^*}$
9	$k,k-1$
8	$(s(t),t)$
8	$Q_{1,k}^d$
7	$1,k-1$

80 (Sz: 6)	
#	Expr
33	(q_k,p_{k+1})
24	$-\gamma(t-\tau)$
20	$\left(q_k^d,p_k^d\right)$
13	$\left(q_k^d,Q_k^d\right)$
12	$\left(x_k^d,u_k^d\right)$
9	$\Delta_\tau^d q_k^d$
9	π_{k-1}^{-1}
9	$(x-s(\tau))^2$
8	$\frac{V^0}{2\sqrt{\gamma}}$
8	$(n,a_1,\ldots,a_n)$
56	$\Delta_\tau^d t_k^d$

80 (Sz: 7)	
#	Expr
43	$\sum_{k=0}^{n-1}$
24	$e^{-\gamma(t-\tau)}$
15	$q_{k+1}+q_k$
14	$\frac{(x-\xi)^2}{4t}$
12	$(q_k,\Delta_\tau q_k)$
12	$p_{k+1}+p_k$
10	$q_{k+1}-q_k$
9	$t_{k+1}-t_k$
9	$\left(c_k^d,\widetilde{p}_k^d\right)$
7	(c_k,D_1S_k)

80 (Sz: 8)	
#	Expr
14	$-\frac{(x-\xi)^2}{4t}$
8	(x_k,p_{k+1},u_k)
8	$\pi_{k,k-1}^{-1}$
7	$(C_k,-D_2S_k)$
6	$p_{1,k-1}^{-1}$
6	$\ell=0,1,2,\ .....$
5	$p_{0,k-1}^{-1}$
5	(q_k,p_{k+1},u_k)
4	$2^{2k-1}B_{2k}$
4	$\frac{v_0\|x-s(t)\|}{2}$

80 (Sz: 9)	
#	Expr
15	$\frac{q_{k+1}+q_k}{2}$
12	$\frac{p_{k+1}+p_k}{2}$
11	$\frac{\Delta_\tau q_k}{\Delta_\tau t_k}$
9	$\left(x_k^d,p_k^d,u_k^d\right)$
6	$\left[-(x-s(t))\frac{v_0}{4}\right]$
6	$(\widetilde{s}(t),t,\xi,0)$
5	$(s(t),t,\xi,0)$
5	$(-\gamma+\alpha^2+\alpha V^0)$
4	$\frac{t_{k+1}-t_k}{\tau}$
4	$\left(D^{j_1}\bigotimes D^{j_2}\right)_{j_{12}}$

80 (Sz: 10)	
#	Expr
20	$\left(q_k^d,\Delta_\tau^d q_k^d\right)$
5	$[(-\gamma+\alpha^2+\alpha V^0)t]$
4	$-v_0\|x-s(t)\|/4$
4	$(s',t-\tau,0,0)$
4	$\frac{\|x-s(\tau)\|}{2(t-\tau)}$
3	$(2J_1+1)(2J_2+1)$
3	$\frac{(x-s(\tau))^2}{4(t-\tau)}$
3	$(s'-\xi,t,0,0)$
3	$(-\gamma(x-s(t))/(2V^0))$
2	$(-1)^{j'-j_{12}-j_3}$

80 (Sz: 11to15)	
#	Expr
9	$(q_{k-1}, \Delta_\tau q_{k-1})$
7	$(s(t), t, s(\tau), \tau)$
5	$R^{j_{12}j_3j_4}_{j'j_{34}j}$
5	$\frac{q_{k+1}-q_k}{t_{k+1}-t_k}$
5	$L_d(q_{k-1}, \Delta_\tau q_{k-1})$
5	$(\widetilde{s}(t), t, \widetilde{s}(\tau), \tau)$
5	$\left(q_k, \frac{\Delta_\tau q_k}{\Delta_\tau t_k}\right)$
5	$\left(\epsilon_1 \|w\|^2 + \frac{1}{\epsilon_1}\|w_x\|^2\right)$
4	$(q_k, f(q_k,p_{k+1}))$
4	$e^{-(x-s(\tau))^2/4(t-\tau)}$

80 (Sz: 16to20)	
#	Expr
7	$\left(\frac{q_{k+1}+q_k}{2}, \frac{p_{k+1}+p_k}{2}\right)$
3	$\left\{-\frac{v_0\|x-s(t)\|}{2} - \frac{\|x-s(t)\|^2}{4t}\right\}$
3	$\frac{(2J+1)J!(J-M)!(J+M)!}{(3J+1)!}$
2	$\mu_{k-1} \circ p^{-1}_{1,k-1}\left(\pi^j_k(x), v_j\right)$
2	$(-1)^{j'-j_{12}+j_{13}-j_1-2j_3}$
2	$\frac{B_{2k+1}(x+n)-B_{2k+1}(x)}{2k+1}$
2	$\left\{\omega_\alpha(x-s(t)) \exp\left(-\frac{x^2}{4t}\right))\right\}$
2	$(p_{k+1} - D_2L_d(q_k, f(q_k,p_{k+1})))$
2	$\|u(x-s(t),t) - u(x-\widetilde{s}(t), t)\|$
2	$\left(\frac{q_{k+1}+q_k}{2}, \frac{q_{k+1}-q_k}{h}\right)$

81 (Quantum theory)

81 (Sz: 2)	
#	Expr
21536	-1
4029	ij
3511	a_1
3482	z_1
3387	$2n$
3080	a_2
3062	U_q
3060	L^2
2953	x_1
2736	z_2
2545	q^2
2266	-2
2175	t_1
1797	t_0
1703	a_3

81 (Sz: 3)	
#	Expr
4366	$\frac{1}{2}$
2888	$n-1$
1897	q^{-1}
1744	$n+1$
1729	$i=1$
1581	$1/2$
1397	$k+1$
1372	α^{-1}
1231	$j=1$
1158	$i+1$
1131	$k-1$
984	$i-1$
894	$k=1$
872	$j+1$
860	$N-1$

81 (Sz: 4)	
#	Expr
757	$-1/2$
693	p, p'
281	$2n-1$
238	$-\frac{1}{2}$
227	(z_1,z_2)
225	$q^{1/2}$
210	$S_{\alpha^{-1}}$
191	$Mat_{m,n}$
188	$(1-q^2)$
176	$\frac{d}{dt}$
164	$\vert_{t=0}$
160	$SU_q(2)$
152	$\frac{1}{2\pi}$
149	$-3/2$
143	$\int_{-\infty}^{\infty}$

81 (Sz: 5)	
#	Expr
318	$\sum_{i=1}^{n}$
289	$\sum_{n=0}^{\infty}$
287	$\sum_{j=1}^{n}$
225	$(z_1 - z_2)$
214	$\sum_{n=1}^{\infty}$
189	$\frac{1}{2\pi i}$
168	$q - q^{-1}$
167	a, b, c
159	$H^D_{P,R}$
158	$\sum_{k=0}^{\infty}$
156	$\sum_{k=1}^{\infty}$
156	$\sum_{j=0}^{\infty}$
145	$i, j = 1$
138	$q^{-1/2}$
136	$\sum_{k=1}^{n}$

81 (Sz: 6)	
#	Expr
82	$-\frac{4}{3}\Lambda_0$
81	$e^{2\pi i z_2}$
78	$a_1 a_5; i$
76	$a_2 a_3; j$
54	$t_{j,k+1}$
48	(x_1,x_2,x_3)
44	$(H(A)\vert_0^1)$
43	$\frac{\partial}{\partial z_a^\alpha}$
43	$\alpha\delta - q\beta\gamma$
41	$\frac{d^2}{dx^2}$

81 (Sz: 7)	
#	Expr
164	a, b, e, f
95	$0 \le s \le t \le T$
83	$L(0) - \frac{c}{24}$
77	$i-1, i-1$
73	$[sl(n+1\vert m)]$
67	$p' - p, p'$
66	$a_2' a_2; 1$
64	$\sum_{i=1}^{n-1}$
59	$a^*_{i-1,i}$
59	$\sum_{i=1}^{N-1}$

81 (Sz: 8)	
#	Expr
48	$Y^{a_2}_{a_2 e;1}$
37	$F_{A_{i,x,\lambda_k}}$
37	$(H(A)\vert_0^1)^{-1}$
35	$a_4 + a_7 + a_9$
34	$(q^{2\alpha+2}; q^2)$
34	$\tau_{k-1,m,n}$
34	$\alpha^{p,p'}_{a,b}$
33	$\alpha^{-1}_{A,B,E}$
29	$Y^{a_1}_{e a_1;1}$
28	$\frac{q^\psi}{\prod_i (q)_{\nu_i}}$

81 (Sz: 9)	
#	Expr
69	$a^*_{i-1,i-1}$
66	$Y^e_{a_2' a_2;1}$
64	$q_\tau^{L(\vec{0})-\frac{c}{24}}$
51	$(U(x_n)w_n, x_n)$
48	$Y^e_{a_2 a_2';1}$
42	$(U(x_1)w_1, x_1)$
37	$(A; \gamma; t; p, q)$
35	$s^{(n-j)}_{a+i-j}$
32	$(w_{a_1}, z_1 - z_2)$
29	$\ell^{(n-1)}_{b+i-1}$

81 (Sz: 10)	
#	Expr
70	$\chi^{p,p'}_{a,b,c}$
49	$p^{(i-1)}, p^{(i-1)\prime}$
39	$Y^{a_2}_{a_3' a_1;j}$
39	$\P^{p,p'}_{a,b,c}$
29	$\frac{\partial^{m-1}_\lambda}{(m-1)!}$
23	$\frac{i}{\hbar}\log c \bigotimes \log a$
22	$a_1 \cdots a_{m b_1 \cdots b_m}$
22	$(\gamma; t_1, \cdots; p, q)$
21	$e_4^{(a_1+a_2+a_3)}$
20	$(x_1,x_2,\cdots,x_7,m,s,p)$

81 (Sz: 11to15)	
#	Expr
72	$\P_{a,b,e,f}^{p,p'}$
62	$Y_{a_1a_5;i}^{a_4;(1)}$
60	$Y_{a_2a_3;j}^{a_5;(2)}$
45	$Y_{a_2a_3';i}^{a_1'}$
44	$(x_1^2+x_2^2+x_3^2)$
39	$Y_{a_2a_1';i}^{a_3'}$
37	$\beta_{a,b,e,f}^{p,p'}$
34	$\Psi_{a_1,a_2,e}^{1,1}$
33	$a_1+a_2+a_3+a_4$
33	$e_4^{(a_1+a_2+a_3+a_4)}$

81 (Sz: 16to20)	
#	Expr
30	$(w_0,w_1,w_2,w_3;z_1,z_2)$
19	$\P_{a',b',e,f}^{p,p'+p}$
15	$\left(b;j_1',j_2',\ldots,j_{d^R-1}'\right)$
14	$\left(a;i_1',i_2',\ldots,i_{d^L-1}'\right)$
13	$(J_v \bigotimes J_vE_vJ_v + J_vE_vJ_v \bigotimes K_v)$
10	$\sum_{d,v\geq 1:\ dv^2=n^2-4}$
9	$(U(e^{2\pi i z_1})w_{a_2}, e^{2\pi i z_1})$
9	$\vartheta(S(e_n,P_k))\vartheta(S(g_n,P_k))$
9	$a^{(i-1)},b^{(i-1)},e^{(i-1)},f^{(i-1)}$
9	$\frac{2\pi i e^{2\pi i x_2}}{e^{2\pi i x_2}-1}$

82 (Statistical mechanics, structure of matter)

82 (Sz: 2)	
#	Expr
4524	-1
2153	x_1
1157	(x,t)
1072	t_1
1063	i_1
1032	x_2
1018	$2n$
1004	(x,y)
1000	z_1
982	t_0
967	ν_ρ
941	x_i
870	x_0
843	z_2
826	Z^d

82 (Sz: 3)	
#	Expr
2344	$\frac{1}{2}$
1548	$n-1$
1468	$i=1$
1200	$k+1$
1187	$n+1$
1062	$k-1$
928	$j=1$
833	$i+1$
771	$1/2$
734	$i-1$
663	$n\to\infty$
646	ν_Λ^N
640	$p-1$
636	$j+1$
548	i,j

82 (Sz: 4)	
#	Expr
700	p,p'
452	$\lim_{n\to\infty}$
329	$-1/2$
200	$\lim_{N\to\infty}$
184	$\lim_{t\to\infty}$
166	$2n-1$
142	x_{n-1}
127	$R_{1,2}$
120	$P_{N,w}$
120	$U_{q,p}$
111	$\int_{-\infty}^{\infty}$
106	$\sigma^{\frac{2}{3}}$
103	$p_{\rho/\kappa}$
101	d^R-1
101	$A_{2n}^{(2)}$

82 (Sz: 5)	
#	Expr
277	$\sum_{i=1}^{N}$
158	a,b,c
143	$\prod_{i=1}^{k}$
131	$\sum_{i=1}^{n}$
121	$p-1,0$
117	$\sum_{j=1}^{n}$
111	j_i,l_i
102	$\sum_{i=1}^{k}$
100	$b+i-1$
97	$\sum_{k=1}^{\infty}$
96	$j,k+1$
94	$\sum_{n=1}^{\infty}$
92	$p^{(i-1)\prime}$
91	$n^{-1/2}$
87	$\sum_{j=1}^{N}$

82 (Sz: 6)	
#	Expr
107	$\nu_{p-1,0}$
69	$(\log l)^{1/3}$
66	$p,p'+p$
54	$t_{j,k+1}$
53	$A_{2n-1}^{(2)}$
51	$(\vec{\sigma}^1,\vec{\sigma}^2)$
44	$(R_{1,2}-q)$
42	$(\log l)^{2/3}$
40	$\sum_{x\in T_N^d}$
39	R_{j_i,l_i}

82 (Sz: 7)	
#	Expr
164	a,b,e,f
113	$1\le h,t\le n$
69	R_{j_i,l_i}^-
67	$p'-p,p'$
49	$i_1 i_2\cdots i_k$
48	$\widetilde{\gamma}_\Lambda^{N,\epsilon_0}$
38	$\tau_{n-f(n)}^z$
37	$\mu_{L,per}^{z,q}$
36	$s_1,\ldots,s_k$
34	$\frac{m+n+1}{2}$

82 (Sz: 8)	
#	Expr
96	$\det_{1\le h,t\le n}$
34	$\alpha_{a,b}^{p,p'}$
31	$\left[f\vert\eta_{\Lambda_1}=n\right]$
28	$\frac{q^\psi}{\prod_i(q)_{\nu_i}}$
27	$\delta_{a,e}^{p,p'}$
26	$e^{2i\alpha x-x^2}$
26	$\delta_{b,f}^{p,p'}$
22	$(1-2q+\widehat{q}_4)$
22	$\nu_{\Lambda_2}^{N-n+1}$
21	$(t_0,t;a,b)$

82 (Sz: 9)	
#	Expr
41	$\int_{c-i\infty}^{c+i\infty}$
39	$\left[\sum_{x\in C_k}\widetilde{c}(\eta_x)\right]$
35	$s_{a+i-j}^{(n-j)}$
32	$A_{N-(p-1)}^{p-1}$
29	$\ell_{b+i-1}^{(n-1)}$
29	a',b',e,f
28	$(\kappa,\kappa-4,\kappa-4)$
25	$\frac{\gamma(n-1)}{\gamma(n)}$
24	$\frac{m+n+1}{2}-t$
24	$\frac{(p-1)!}{N^{p-1}}$

82 (Sz: 10)	
#	Expr
70	$\chi_{a,b,c}^{p,p'}$
49	$p^{(i-1)},p^{(i-1)\prime}$
39	$\P_{a,b,c}^{p,p'}$
37	$\left[f\vert\eta_{\Lambda_1}=n-1\right]$
29	$(-r\vec{e}_1,r\vec{e}_1)$
27	$P_{N,+,0}^{a,b}$
19	$\left(H_n^1;P_n\right)_{a_n\beta^1}$
15	$n-C^{-1/2}f_I(n)$
13	$(H_n^1,H_n^2;P_n)$
12	$\left(H_n^2;P_n\right)^{u^2,r}$

82 (Sz: 11to15)	
#	Expr
72	$¶^{p,p'}_{a,b,e,f}$
37	$\beta^{p,p'}_{a,b,e,f}$
27	$N+\frac{1}{2}, k+3j+\frac{3}{2}$
26	$\ell^{(n+j-1)}_{b+i-1}$
22	$\widehat{J} \in A^{p-1}_{N-(p-1)}$
22	$\sum_{\widehat{J} \in A^{p-1}_{N-(p-1)}}$
20	$\epsilon_0, \epsilon_1, \epsilon_2, \epsilon_3$
19	$\frac{\sin\frac{n\pi}{m}}{\sin\frac{\pi}{m}}$
16	$(X_l(t) - X_k(s), t-s)$
14	$x_1 + ... + x_k = n\vec{a}$

82 (Sz: 16to20)	
#	Expr
41	$\prod_{i=1}^{k} \epsilon_{j_i}\epsilon_{l_i} R^{-}_{j_i,l_i}$
19	$¶^{p,p'+p}_{a',b',e,f}$
16	$T^{i}_{N+\frac{1}{2},k+3j+\frac{3}{2}}$
15	$\left(b; j'_1, j'_2, \ldots, j'_{d^R-1}\right)$
14	$\left(a; i'_1, i'_2, \ldots, i'_{d^L-1}\right)$
13	$\prod_{i=1}^{k} \epsilon_{j_i}\epsilon_{l_i} R_{j_i,l_i}$
12	$(\omega_U, \omega^1_S, \omega^0_S, \widetilde{\omega}^1_S, \widetilde{\omega}^0_S)$
10	$P^{\ a',b'}_{(l',r'),+,0}$
9	$a^{(i-1)}, b^{(i-1)}, e^{(i-1)}, f^{(i-1)}$
9	$\frac{p^{N/\lvert\Lambda\rvert}_{\Lambda\setminus\Lambda'}(N-n)}{p^{N/\lvert\Lambda\rvert}_{\Lambda}(N)}$

83 (Relativity and gravitational theory)

83 (Sz: 2)	
#	Expr
915	-1
557	r^2
509	ij
416	L^2
274	T^*
272	$2m$
258	x^i
257	Q_0
255	$\alpha\beta$
250	x_0
246	i'
200	dx
198	E_i
194	z_0
191	R^3

83 (Sz: 3)	
#	Expr
528	$\frac{1}{2}$
442	$n+1$
176	$\frac{1}{4}$
165	$1/2$
163	$i=1$
159	M^3_Γ
157	$n-1$
147	g_{ij}
132	loc
128	σ,τ
115	$E_{i'}$
111	$Y\times I$
77	$\int_{R^3}$
77	K^{-1}
76	L^{-1}

83 (Sz: 4)	
#	Expr
279	r^2+1
140	F_{n+1}
72	r^2+1
72	E_{n+1}
52	M^{n+1}
45	$2m-1$
43	$m_{\sigma,\tau}$
40	t_p^{-1}
40	$\vert_{\gamma(s)}$
40	$\frac{d}{dt}$
39	$v\in Q_0$
38	$2m+1$
37	a_{z-1}
35	$A^i_{i'}$
32	S^{n-1}

83 (Sz: 5)	
#	Expr
164	$(r^2+1)^2$
82	$H^{1/2}_*$
47	$\sum_{i=1}^{n}$
45	$(\log K)_{,\varrho}$
38	$k+1,p$
32	$\sum_{v\in Q_0}$
25	$L^2(Y\times I)$
25	$(X(t),t)$
25	$i,j=1$
22	$1i(j)(1)\dots$
21	$\frac{dq}{d\lambda}$
21	$\frac{dt}{d\lambda}$
21	$\frac{\delta}{\delta x^i}$
20	$L^{-1}E_i$
20	$\lambda\in {Q_0}'$

83 (Sz: 6)	
#	Expr
61	$\frac{K}{r^2+1}$
45	$z_0+\epsilon_h x$
34	$\nabla^\eta_{E_{n+1}}$
22	$\frac{\partial A}{\partial x_k}$
21	$[k+(m-1)\mu]$
20	$H^1_*(Y\times I)$
14	$\sum_{k=-\infty}^{\infty}$
13	$\alpha\ \ \alpha$
12	$(\log K)^{1\ \ 2}_{,\varrho\varrho}$
12	$\frac{dt}{d\tilde{t}}$

83 (Sz: 7)	
#	Expr
61	$\sqrt{\frac{K}{r^2+1}}$
33	$T^*X\bigotimes T^*X$
21	$(W_1(t),W_2(t))$
19	$\sum_{i=1}^{n-1}$
17	$\nabla^\eta_{F_{n+1}}$
16	$(x_1^2+x_2^2)$
13	$1-P+K^\dagger P$
13	$t_p^{-1}(U\times V)$
13	$\nabla^g_{L^{-1}E_i}$

83 (Sz: 8)	
#	Expr
18	$\sum_{i=1}^{2m-1}$
17	(F_{n+1},F_{n+1})
13	$\vert_{t_p^{-1}(U\times V)}$
11	$\sqrt{\frac{\pi}{Area(\partial N,g)}}$
7	$\nabla^g_{L^{-1}E_i}\zeta$
7	$\Vert u\Vert^2_{H^1_*(Y\times I)}$
6	$\frac{\lambda^k-1}{\lambda-1}$
6	$e^{-F}\Psi_+\bigotimes\Psi_-$
6	$t_p^{-1}(U\times V_j)$
5	$\sum_{\lambda,\mu\in {Q_0}'}$

83 (Sz: 9)	
#	Expr
8	$\langle\dot{c}_a(t),\dot{c}_a(t)\rangle$
7	$g_B\big(\nabla^B\psi,\nabla^B\psi\big)$
7	$[V_0-K_0f(\eta^2)]$
6	$g_B\big(\nabla^B w,\nabla^B c\big)$
6	$\frac{1}{2}-\frac{1}{p+1}$
6	$\frac{\partial\ln(\psi(X,t))}{\partial X}$
6	$\vert_{t_p^{-1}(U\times V_j)}$
6	$Met^{p,0}_{2,B}$
6	$\dot{u}\ddot{v}-\dot{v}\ddot{u}$
5	$g_B\big(\nabla^B w,\nabla^B w\big)$

83 (Sz: 10)	
#	Expr
21	$\varrho^4(r^2+1)^2+\epsilon^4$
18	$\varrho^4(r^2+1)^2+t^4$
11	$\varrho^4(r^2+1)^2+\epsilon^4$
10	$\varrho^4(r^2+1)^2+t^4$
6	$(E_{ta}\bigotimes M_a,E_{ha})$
5	$\gamma^{k-1}+\ldots+\gamma+1$
5	$\{[k+(m-1)\mu]+(1-\mu)\}$
4	$(E_{ta}\bigotimes M_a,E_{ha})$
4	$p-r+\epsilon\frac{\partial}{\partial y_0}$
4	$\Gamma(1/2)\Gamma(5/4)$
5	$\{[k+(m-1)\mu]+(1-\mu)\}$
4	$(E_{ta}\bigotimes M_a,E_{ha})$
4	$p-r+\epsilon\frac{\partial}{\partial y_0}$
4	$\Gamma(1/2)\Gamma(5/4)$

83 (Sz: 11to15)	
#	Expr
12	$D^{1i(j)(1)\ldots}_{1k(1)(l)\ldots}$
12	$(W(t_1), W(t_2), p)$
8	$\sqrt[4]{\varrho^4(r^2+1)^2+t^4}$
8	$\left(\varrho^4(r^2+1)^2+\epsilon^4\right)^{3/2}$
7	$\frac{g_B\left(\nabla^B\psi,\nabla^B\psi\right)}{\psi^2}$
7	$\frac{1}{\varrho^4(r^2+1)^2+\epsilon^4}$
6	$2H - I(x_1^2+x_2^2)$
5	$(m_{\sigma,\tau}(H) - m_{\sigma,\tau}(K), s)$
5	$0 \hookrightarrow F_0 \hookrightarrow F_1 \hookrightarrow \cdots \hookrightarrow F_m = F$
4	$\left\lvert\left(2\pi i k_j a_0^j+\lambda\right)u_k\right\rvert$

83 (Sz: 16to20)	
#	Expr
5	$\left(\mu\lvert\psi\rvert^2+\nu^i\langle\psi, c(e_i)c(e_0)\psi\rangle\right)$
3	$\left\{x^i_{\alpha\beta}+2H^{(i)}_{(\alpha)\beta}+2G^{(i)}_{(\alpha)\beta}\right\}$
3	$2(\varrho^4(r^2+1)^2+t^4)^{3/2}$
3	$t_p^{-1}(U\times\tau_{b_j}^{-1}(A_j\times\Delta_j))$
3	$-(A_2+B_2)+\left(B_2+\frac{1}{4}\varrho^2 C\right)r^2$
3	$\frac{\Gamma(3/2)\Gamma(-1/4)}{\Gamma(1/4)\Gamma(1)}$
3	$\lvert_{t_p^{-1}(U\times\tau_{b_j}^{-1}(A_j\times\Delta_j))}$
3	$\cdots\cdots\times\tau_{b_r}^{-1}(A_{r+1}\times\Delta_{r+1})$
3	$\left(div_{g_{eu}}(g) - grad_{g_{eu}}(Tr_{g_{eu}}(g)),\, V_g\right)$
3	$\left(\lvert\nabla\psi\rvert^2+\frac{1}{4}R(g)\lvert\psi\rvert^2-\lvert D\psi\rvert^2\right)$

85 (Astronomy and astrophysics)

85 (Sz: 2)	
#	Expr
403	ex
200	p_y
179	$(.,s)$
161	π_1
144	t_0
114	N_1
112	N_2
96	S^1
93	p_x
86	d_S
85	K_s
84	d_Y
83	v_i
75	W_1
73	t_i

85 (Sz: 3)	
#	Expr
253	N, r
130	$n-1$
71	win
66	$\widehat{W}_N$
60	$k\ell m$
50	$\int_0^t$
48	alk
32	STM
26	$r=1$
25	p_{x_2}
24	$\bar{f}_1$
24	σ_r^2
24	$\vec{v}_r$
24	$a_{N,\ rq}$
23	p_{x_1}

85 (Sz: 4)	
#	Expr
97	$d_{N,r}$
79	S^{n-1}
57	$\vec{X}_N^k$
47	$S_{N,r}$
25	Δ_{alk}
22	e^{27s^3}
21	$\widehat{a}_{rq}$
21	$h_{N,r}$
20	win_p
17	p_y^{-1}
17	$S_{N,q}$
16	$(t_i v_i)$
16	$\widetilde{win}$
16	$X_{k\ell m}$
15	$B(M,N)$
513	S^{m-1}

85 (Sz: 5)	
#	Expr
25	$\sum_{r=1}^{R}$
18	$\sum_{q=1}^{R}$
17	$\left(\vec{X}_N^k(s)\right)$
14	$\sup_{t\in[0,T]}$
11	$\widetilde{\Psi}_{k\ell m}$
10	$exp_y(v)$
10	$q, l=1$
9	$\gamma(d/2)$
9	win_{a_j}
9	$(N_1 \times N_2)$
9	$\Delta_{\widetilde{win}}$
7	$\lvert K_s"(t)t\rvert$
7	$P_d^{(\lvert m\rvert,\lvert\ell\rvert)}$
7	$k\ell' m'$
7	$\lvert 2K_s'(t)\rvert$

85 (Sz: 6)	
#	Expr
15	$\lVert d_{N,r}(.,s)\rVert$
15	$\lVert d_{N,r}(.,t)\rVert$
9	$(b(t)v(t))$
7	$\lvert (K_s'(t)t\rvert$
7	$a_{N,\ rq}^{*,k}$
6	$\lVert d_{N,r}(.,0)\rVert$
6	$(.-\vec{u}, s)$
6	$\sup_{t\in[0,T^*]}$
5	$\Psi_{k,\ell,\ell}$
5	$k, \ell, -\ell$

85 (Sz: 7)	
#	Expr
21	$(W_1(t), W_2(t))$
12	$k \in M(N,r,s)$
11	$\left(\vec{X}_N^k(s), s\right)$
11	$k, +\ell, -m$
10	$k, -\ell, -m$
10	$k, -\ell, +m$
10	$k, +\ell, +m$
10	$\sum_{q,l=1}^{R}$
10	$\widehat{W}_N * \widehat{W}_N$
8	$(N_1 \times N_2, *)$

85 (Sz: 8)	
#	Expr
12	$\sum_{k\in M(N,r,s)}$
11	$\lVert d_{N,r}(.,s)\rVert_2^2$
11	$\Psi_{k,+\ell,-m}$
11	$\left\lVert\vec{\nabla} d_{N,r}(.,s)\right\rVert$
10	$\Psi_{k,-\ell,-m}$
10	$\Psi_{k,+\ell,+m}$
10	$\Psi_{k,-\ell,+m}$
9	$\lVert d_{N,r}(.,t)\rVert_2^2$
6	$\lVert d_{N,r}(.,0)\rVert_2^2$
6	$\sum_{k\in M(N,r,t)}$
3	$\lVert d_{N,q}(.,s)\rVert_2^2$

85 (Sz: 9)	
#	Expr
7	$\lvert 2K_s(t)K_s'(t)t\rvert$
6	$(h/2, R+h/2)$
5	$I^1_{N,r,k,i}$
5	$\left(\widetilde{W}_1(t), \widetilde{W}_2(t)\right)$
5	$\left(5/\left(se^{27s^3}+s\right)\right)$
4	$\left(\widehat{W}_N * \widehat{W}_N\right)\left(\vec{0}\right)$
4	(n, K', r_1-r)
3	$k, l \in M(N,r,t)$
3	$\left(j\pi/2^k, s, t\right)$
3	$\{(x,y) \in A \lvert xy=0\}$

85 (Sz: 10)	
#	Expr
11	$\left(d_{N,r}(.,s) * \widehat{W}_N\right)$
11	$\left\lVert\vec{\nabla} d_{N,r}(.,s)\right\rVert_2^2$
2	$1+(Ln(2))^{1/3}/s$
2	$\sum_{k,l\in M(N,r,t)}$
2	$exp_x([0,\ kR/4]v$
2	$\theta_{2t_0,p,R/4}$
2	$\lvert df_x(v)-df_x(w)\rvert^2$
2	$(d_S(v_i,w_i), t, s)$
2	$\sum_{k,l\in M(N,r,s)}$
2	$V(n, H, r_1-r)$

85 (Sz: 11to15)	
#	Expr
12	$(W(t_1), W(t_2), p)$
5	$\Omega_{i+j+n_1+n_2-m}$
5	$\vec{X}_N^k(t) - \vec{X}_N^l(t)$
5	$i + j + n_1 + n_2 - m$
4	$(exp_x(tv),\ exp_x(sw))$
3	$(d_S(v_1,v_2), s_1, s_2)$
3	$\{(x,y) \in R^2 \vert x^2 + y^2 \leq 1\}$
3	$((k-1)R/4, (k+1)R/4)$
2	$(exp_y(sv),\ exp_y(tw))$
2	$2(k+1)d!(\vert\ell\vert + \vert m\vert + d)!$

85 (Sz: 16to20)	
#	Expr
3	$\Psi_{k,+\ell,+m} + \Psi_{k,-\ell,-m}$
3	$\Psi_{k,+\ell,+m} + \Psi_{k,-\ell,-m}$
2	$\left[\int_0^T \left\Vert \vec{\nabla} d_{N,r}(.,s) \right\Vert_2^2 ds\right]$
2	$\left(exp_{f(y)}(\epsilon g_f(v_1)),\ exp_{f(y)}(\epsilon g_f(w))\right)$
2	$\left\Vert (s_q(.,s) - S_{N,q}(s)) * W_N \right\Vert_2$
2	$\Psi_{k,-\ell,+m} - \Psi_{k,+\ell,-m}$
2	$\Psi_{k,-\ell,+m} + \Psi_{k,+\ell,-m}$
1	$\frac{V(n,H,3r) - V(n,H,r)}{V(n,H,r)}$
1	$\vert d_Y(\phi(x_1),\phi(x_2)) - d_X(x_1,x_2)\vert$
1	$(exp_{x_2}(tv_2),\ exp_{x_2}(\bar{s}\bar{w}_2))$
1	$([kR/4 - R/4,\ kR/4 + R/4]w_1)$

86 (Geophysics)

86 (Sz: 2)	
#	Expr
235	T_1
209	ϵ^{γ}
176	λ_1
146	-1
141	W_1
137	dt
129	L^2
113	ds
111	IP
111	$[0,T]$
110	ψ_1
106	a^2
106	(x,t)
105	θ_t
98	T^{ϵ}
592	h_1

86 (Sz: 3)	
#	Expr
307	$\frac{1}{2}$
143	$\int_0^t$
82	$k-1$
74	$[0,T_1]$
63	per
60	$\epsilon \to 0$
55	x_s^1
55	$1-z$
53	$(\theta_t \omega)$
53	$\int_{R^3}$
53	$\int_0^1$
51	$\triangle^{-1}$
48	$z=1$
44	IP_x
43	z_s^1

86 (Sz: 4)	
#	Expr
86	$\frac{\epsilon^{\gamma}}{2}$
80	$\frac{d}{dt}$
55	e^{1-z}
55	$x_{T_1}^1$
43	$\lvert z_s^1(y)\rvert$
41	$t \in [0,T]$
37	$I_{\epsilon^{\gamma}}^-$
30	$lim\ sup_{\epsilon \to 0}$
29	$\gamma_{z=1}$
27	$\epsilon^{\alpha/2}$
26	$\lvert \epsilon \xi_t^{\epsilon} \rvert$
26	$(a_{\mu}-h)$
23	(u^1,u^2)
22	$[-b,a]$
16	$\lVert \omega(t) \rVert^2$

86 (Sz: 5)	
#	Expr
47	s,y,l
41	$\sup_{t \in [0,T]}$
37	$s \in [0,T_1]$
33	$(\omega_1, \bar{\omega}_2)$
29	$\sum_{k=1}^{\infty}$
17	$\lvert \Lambda^s \theta \rvert_2^2$
16	$\lVert \Delta \psi_1 \rVert_0^2$
15	$\lVert \nabla \psi_2 \rVert_0^2$
14	$\lVert T(y,1) \rVert^2$
13	$\gamma_{z=1}^*$
12	$\lVert \nabla \psi_1 \rVert_0^2$
12	$([0,T];H^s)$
11	$\left(1-C\epsilon^{\delta}\right)$
11	$\left(a_{\mu}^i - h\right)$
11	$s-\frac{1}{2}$

86 (Sz: 6)	
#	Expr
37	$\sup_{s \in [0,T_1]}$
35	$1-e^{1-z}$
17	$\blacksquare, \blacksquare, 2\pi$
14	$y \in I_{\epsilon^{\gamma}}^-$
10	$\lVert \delta T(y,1) \rVert^2$
9	$(\triangle^{-1}\omega, \omega)$
9	$(1+\partial_{xx})^2$
8	$\sup_{t \in [0,T_R]}$
8	$(\sigma(\epsilon) = \tau_k)$
8	$\left\lVert \bar{\psi}_1 - \xi_1 \right\rVert$

86 (Sz: 7)	
#	Expr
16	$O_{\blacksquare,\blacksquare,2\pi}$
12	$PrRa^2\lambda_1$
10	$\inf_{y \in I_{\epsilon^{\gamma}}^-}$
10	$-\epsilon A(\tau - s)$
8	$\prod_{j=1}^{k-1}$
8	$(\triangle^{-1}h, \omega_0)$
7	$\tau_1^{s,y,l}$
7	$\sup_{x \in B_{\gamma}(x_-)}$
6	$\left(\lVert \nabla T \rVert^2 + \lVert \nabla S \rVert^2\right)$
6	(l,h_0^1,h_0^2)

86 (Sz: 8)	
#	Expr
10	$e^{-\epsilon A(\tau - s)}$
9	$x_{T_{k-1}}^{k-1}$
8	$x_{T_{j-1}}^{j-1}$
6	$\left(\lVert \theta \rVert^2 + \lVert T \rVert^2 + \lVert S \rVert^2\right)$
6	$\left\lVert S(r)\sqrt{Q} \right\rVert_{HS}^2$
5	$\max_{j=1,\cdots,N}$
5	$\left\lVert \bar{\psi}_1 - \xi_1 \right\rVert_2^2$
5	$\frac{(t-t_0)\kappa\lvert j \rvert}{2}$
5	$\lvert \langle J(u,v), w \rangle \rvert$
5	$\lVert \gamma_{z=1} T \rVert_{L_2}^2$

86 (Sz: 9)	
#	Expr
6	$[S_o + \theta - T(y,1)]$
5	$(\Lambda^{2s}\theta, u \cdot \nabla \theta)$
5	$((k-1)T + t - mT)$
5	$\sup_{t \in [0,T]} \lvert \epsilon \xi_t^{\epsilon} \rvert$
4	$(1 - P(\epsilon W_1 \not\in I))$
4	$\left\lvert \Lambda^{s+\frac{1}{2}}\theta \right\rvert_2^2$
4	$\left\{\mu - e_i\left(a_{\mu}^i - h\right)\right\}$
4	$\left[\frac{1}{a^{\alpha}} + \frac{1}{b^{\alpha}}\right]$
4	$(\tau_{\varrho} \le (a_{\mu} - h)T^{\epsilon})$
4	$[\Lambda_i(\mu), \Lambda_{i+1}(\mu)]$

86 (Sz: 10)	
#	Expr
5	$\left(\sup_{t\in[0,T]}\lvert\epsilon\xi_t^{\epsilon}\rvert\right)^2$
5	$\lVert\omega(t)-\omega_0-W_A(t)\rVert$
5	$\varphi\in F^{\gamma_0},\varphi_0=y$
4	$[-b+\epsilon^{\gamma},a-\epsilon^{\gamma}]$
4	$\sigma(\epsilon)\in(\tau_{k-1},\tau_k)$
3	$1+F_1F_2\lambda_1^{-2}$
3	$\lvert B(l,h_0^1,h_0^2)\rvert^2$
3	$e^{-\lambda^{'}(k-m-1)T}$
3	$t_k\leq\tau_D\leq t_{k+1}$

86 (Sz: 11to15)	
#	Expr
8	$x_{T_{j-1}}^{j-1}+\epsilon W_{j-1}$
8	$\left(\lVert\delta\theta\rVert^2+\lVert\delta T\rVert^2+\lVert\delta S\rVert^2\right)$
7	$-\int_s^t U"(Y_u(x))\,du$
7	$\left(h_1\lVert\Delta\psi_1\rVert_0^2+h_2\lVert\Delta\psi_2\rVert_0^2\right)$
7	$x_{T_{k-1}}^{k-1}+\epsilon W_{k-1}$
7	$e^{-\int_s^t U"(Y_u(x))\,du}$
5	$h_1\lVert\nabla\psi_1\rVert_0^2+h_2\lVert\nabla\psi_2\rVert_0^2$
5	$\inf_{\varphi\in F^{\gamma_0},\varphi_0=y}$
5	$\{x_s^1(y)\notin I for\ some s\in[0,T_1]\}$
4	$\frac{(\beta_\epsilon t)^{k-1}}{(k-1)!}$

86 (Sz: 16to20)	
#	Expr
6	$(1-e^{1-z})(1-\gamma(y))-e^{1-z}$
4	$a^2+\lVert S_a\rVert^2+\lVert S_o\rVert_{H^2}^2+\lVert f\rVert^2+\lVert F\rVert_{H^2}^2$
4	$a^2+\frac{5}{4}\lVert S_o\rVert^2+\lVert S_a\rVert^2+\lVert f\rVert^2$
4	$Det\left[\zeta;\frac{\partial A}{\partial x_i};\frac{\partial A}{\partial x_j}\right]$
4	$\lVert\delta q\rVert^2+2PrRa^2\lambda_1\left(\lVert\delta\theta\rVert^2+\lVert\delta T\rVert^2+\lVert\delta S\rVert^2\right)$
3	$[J(\triangle^{-1}\omega,\omega)-J(\triangle^{-1}\bar{\omega},\bar{\omega})]$
3	$\lVert q\rVert^2+2PrRa^2\lambda_1\left(\lVert\theta\rVert^2+\lVert T\rVert^2+\lVert S\rVert^2\right)$
3	$\left\{\sup_{t\in[0,T]}\lvert\epsilon\xi_t^{\epsilon}\rvert\geq\frac{c\epsilon^{\gamma}}{2C_Z}\right\}$
3	$y\in K,\mu\in V,u\in S^{r,\beta}(\epsilon,\mu)$
3	$\left\lVert G\left(\widetilde{\Delta}\eta(\theta_\tau\omega)\right)_x-\eta(\theta_\tau\omega)_x\right\rVert_{V'}^2$

90 (Operations research, mathematical programming)

90 (Sz: 2)	
#	Expr
627	x_1
528	-1
363	x_2
339	x_i
315	ij
241	$2k$
240	x_3
237	λ_i
227	s_r
212	$\bar{Q}$
205	a_i
190	v_i
179	f^*
174	p_i
170	v_1

90 (Sz: 3)	
#	Expr
462	$i = 1$
341	i, j
264	A, c
263	$j = 1$
244	$\frac{1}{2}$
201	$k + 1$
189	$n + 1$
182	$j + 1$
170	$1/2$
158	$m - 1$
157	$j - 1$
148	$n - 1$
125	$i, 1$
121	$k - 1$
117	$i + 1$

90 (Sz: 4)	
#	Expr
227	$P_{A,c}$
82	(s_r,t_m)
67	C^{r+2}
51	$e^{-\beta t}$
48	S^{m-1}
47	$\beta_{i,j}$
46	t_{m+1}
46	I_{m-2}
44	$I - M^T$
42	s_{r+1}
42	k_{j+1}
42	h_{j+1}
35	A_{j-1}
32	$d_{1/2}$
31	$\lim_{k\to\infty}$
531	h_{j+2}

90 (Sz: 5)	
#	Expr
115	$\sum_{i=1}^{n}$
69	$\exp\left(-\Theta(n)\right)$
63	$i - 1/2$
62	$\sum_{j=1}^{n}$
60	$\sum_{j=1}^{m}$
59	$\sum_{i=1}^{k}$
52	$i + 1/2$
42	$\sum_{i=1}^{m}$
37	$[x_1,\ldots,x_n]$
31	$\bar{T}_{i,1}$
30	$\bar{T}_{i,j}$
27	$\bar{Q}_{i,j}$
26	$\sum_{j=1}^{k}$
26	$1 \leq i \leq n$
23	$j + 1/2$
523	$i \in [r-1]$

90 (Sz: 6)	
#	Expr
42	$\frac{p_i}{1-\beta}$
28	(t_m,t_{m+1})
18	$\alpha \in P \bigcap Z^d$
17	$[s_r,s_{r+1}]$
17	$d_{j+1/2}$
17	$\sum_{i\in[r-1]}$
16	$\overset{\circ}{x}_{E^c-j}$
15	$x_{i+1/2}$
15	(A_j,A_{j-1})
14	$\min_{x\in\Gamma(X)}$

90 (Sz: 7)	
#	Expr
24	$\sum_{l=1}^{L-1}$
23	$(B(n), m; \rho)$
22	$\frac{x_j^{2k}}{k!}$
18	$\sum_{j=1}^{m-n}$
14	$(\beta + 2\rho - \sigma^2)$
13	$\{x_1,x_2,...,x_k\}$
12	$\langle u_i^*, Q_i x\rangle$
11	$\sum_{i=1}^{d+1}$
11	$\{N_m\colon\ m \geq 1\}$
11	$\sum_{i=1}^{m-1}$

90 (Sz: 8)	
#	Expr
12	$\lvert N(A) \bigcap D_{k+1}\rvert$
8	$\left(w_0^T x - K_0\right)_+$
7	$\log M(G_f; \epsilon)$
7	$D_{(I-M^T),\widetilde{b}}$
6	$4\alpha_1, 0, 2\beta$
6	$0, 4\alpha_2, 2\gamma$
6	$\max_{k=1,\ldots,r}$
5	(A_{j-1},A_{j-2})
5	(C_{j-1},D_{j-1})
5	$(t_{\widehat{m}+1},t_{m_0})$

90 (Sz: 9)	
#	Expr
13	$(\leq_1, ..., \leq_n)$
10	$\frac{h_{j+1}}{k_{j+1}}$
10	$t_m \leq t \leq t_{m+1}$
10	$A_1^{\bigotimes k} + A_2^{\bigotimes k}$
8	$(x(1), \ldots, x(k))$
8	$(x_{p+1},\{x_1...x_p\})$
7	$b_{i,j} + b_{j,i}$
7	$(L(G_0), L(G_1))$
6	$\int_0^t c^\lambda(s)\, ds$
6	$T_i \in L(U_i,V_i)$

90 (Sz: 10)	
#	Expr
8	$\sup_{t_m\leq t\leq t_{m+1}}$
8	$-\int_0^t a(s)\, ds$
6	$(\theta_n^\mu, Z_n^\mu(\theta_n^\mu))$
6	$\inf_{T_i\in L(U_i,V_i)}$
6	$e^{\int_0^t c^\lambda(s)\, ds}$
5	$l_1, l_2, \ldots, l_m$
4	$\left(\sum_{i=0}^{m} p_i x_i\right)^2$
4	$\left[f_j^i(t_j)\right]_{1,\ldots,n}$
4	$\frac{1-(1-\epsilon)^2}{1-\epsilon}$
4	$\lvert_{f(U_1)=f(U_R)}$

90 (Sz: 11to15)	
#	Expr
8	$(x(1), \ldots, x(L-1))$
8	$e^{-\int_0^t a(s)\,ds}$
7	$\log N_m Q(f; \lambda(m))$
7	$A_1^{\bigotimes k} + \cdots + A_m^{\bigotimes k}$
7	$\frac{\log M\left(G_f;\epsilon\right)}{\log\left(1/\epsilon\right)}$
6	$e^{-\widetilde{L}\lceil t/\alpha+\epsilon t\rceil}$
6	$-\widetilde{L}\lceil t/\alpha+\epsilon t\rceil$
6	$(\widetilde{p}_1, \cdots, \widetilde{p}_l,\ p)$
6	$h_j + h_{j+2}, k_j + k_{j+2}$
5	$\frac{k_{j+2}+n}{k_{j+1}}$

90 (Sz: 16to20)	
#	Expr
7	$\frac{\log N_m Q(f;\lambda(m))}{\log N_m}$
4	$\{N(t+z) \geq t/\alpha + \epsilon t \vert Z_1 \geq z\}$
4	$\{(2\alpha, 2\beta)\,\vert \alpha+\beta = r, \alpha \neq 0\}$
3	$\frac{\log M\left(G_f;\epsilon_m\right)}{\log\left(1/\epsilon_m\right)}$
3	$\left(p_{C_{F\bigcap G}, \epsilon_{\dim(F\bigcap G)}},\ p_{F\bigcap G}\right)$
3	$\frac{\log Q(f;\lambda(m))/N_m}{\log\left(1/N_m\right)}$
3	$\frac{(m-k-1+\epsilon(m+k))^2}{(m+k)(1-\epsilon^2)}$
3	$\{a_i b_i \colon 1 \leq i \leq n, a_i \in A, b_i \in B\}$
3	$(t - \max\left(p(m,n)^\gamma, t(m,n)\right))^{\frac{1}{\gamma}}$
3	$\left(c_{1,2}, \ldots, c_{1,d}, c_{2,3}, \ldots, c_{d-1,d}\right)$

91 (Game theory, economics, social and behavioral sciences)

91 (Sz: 2)	
#	Expr
261	x_1
232	-1
176	dt
172	x_2
140	x_i
140	$\ddot{s}$
126	x_0
125	K_0
122	p_1
119	$2k$
117	ds
112	k
111	p_0
110	q_i
109	(t,s)
5105	F_t

91 (Sz: 3)	
#	Expr
261	τ, θ
259	t, T
199	$\frac{1}{2}$
168	$i-1$
152	θ, T
140	$\int_0^t$
137	ϱ, θ
136	$t+1$
133	τ, T
125	$i=1$
117	$n-1$
111	α, β
109	ess
105	$k-1$
101	$k+1$

91 (Sz: 4)	
#	Expr
101	$\phi_{t,T}$
69	$2k+3$
66	$\lim_{n\to\infty}$
53	$\varphi_{\varrho,\theta}$
36	f_{t+1}
32	$d_{1/2}$
31	$D_{\tau,\theta}$
31	$1_{(\tau,\infty)}$
31	$\phi_{\theta,T}$
30	q_{t+1}
30	$h+HX$
29	$C_{\theta,T}$
29	$(\vec{x},\vec{a})$
29	$\int_0^{+\infty}$
27	$>_{t,T}$

91 (Sz: 5)	
#	Expr
64	$t+1\colon w$
58	$0 \le t \le T$
49	$\widehat{v}_{i-1}$
47	$\sum_{i=1}^{n}$
45	$R^{\infty}_{\tau,\theta}$
38	$t-(x \vee y)$
34	$0 \le t \le T$
30	$\frac{dQ}{dP}$
26	$f, t+1$
25	$R^{\infty}_{t,T}$
25	$\sum_{j=2}^{d}$
22	$)_{k=0}^{\infty}$
19	$(h+HX)'$
18	$j+1/2$
18	$1-1/\alpha$

91 (Sz: 6)	
#	Expr
63	$\vartheta_{t+1\colon w}$
20	$\theta_{f,t+1}$
17	$n^{1-1/\alpha}$
17	(x_1,x_2,x_3)
17	$d_{j+1/2}$
17	$\sup_{0\le t\le T}$
17	(m,p,p')
15	$b \in D_{\theta,T}$
14	$(1+C_T)^{-1}$
13	$p+(k-1)q$

91 (Sz: 7)	
#	Expr
24	$i_1, \cdots, i_k$
15	$\left(I\ddot{s}\right)_{k\vert j}$
14	$1+\frac{\bar{\lambda}^2}{2}$
13	$\int_{t_{i-1}}^{t_i}$
13	$t+2\colon w-1$
11	$\left(\frac{\lfloor nt \rfloor}{n}, \frac{i}{n}\right)$
10	$\left(w^T x - K_0\right)_+$
10	$\sum_{i=1}^{n-1}$
8	$(1+\lambda)a^r+1$
7	$\left(w_0^T x - K_0\right)$

91 (Sz: 8)	
#	Expr
13	$\vartheta_{t+2\colon w-1}$
10	$-\log(1-w)$
9	$\left(\frac{n-1}{N}, \frac{i}{N}\right)$
8	$(\mathbb{R}^2, dx\,dy)$
7	$\frac{x_1-q+1}{2}$
7	$1+\lambda+a+\lambda x$
7	$\{G_r\colon r \in Q^{++}\}$
7	$\left(w_0^T x - K_0\right)_+$
7	$\sigma_{i_1,\cdots,i_k}$
6	$\left(Z(s)-\widehat{Z}(s)\right)^*$

91 (Sz: 9)	
#	Expr
9	$\frac{1}{2}+\frac{\lambda^2}{4}$
7	$-(1+k)/(2k+3)$
5	$(1+\lambda+a+\lambda x)^r$
4	$\left\Vert q_t \right\Vert_{\infty,k,I,\lambda}$
4	$(\sigma_{i_1,\cdots,i_k}(t))$
4	$(b_1, ..., b_n)$
4	$\vert\log\,\Delta\vert n^{1/(1+\beta)}$
4	$\xi \in \{-1,1\}^{n-1}$
4	$\left[K_T\gamma(1+C_T)^{-1}\right]$
3	$(\gamma\,(w_*-w)+\eta w)$

91 (Sz: 10)	
#	Expr
8	$-2(1+k)/(2k+3)$
8	$n^{2(k+1)/(2k+3)}$
7	$(a+AX)dt+\Sigma dW$
7	$n^{-(1+k)/(2k+3)}$
4	$(1+\lambda)ax+\lambda a+x$
4	$(1+\lambda)ax+x+\lambda a$
4	$(1+\lambda)ax+\lambda a+x$
4	$((1+\lambda)ax+x+\lambda a)$
4	$(t_j; p, q, \theta, \sigma)$
4	$\frac{\theta\, e^{-\mu\varrho}}{1-\varrho}$
4	$-\log(1-w)-1$

91 (Sz: 11to15)	
#	Expr
19	$e^{-\tau \varkappa (x,y)(t-(x\vee y))}$
19	$-\tau \varkappa (x,y)(t-(x\vee y))$
10	$t-\sum_{j=2}^{d} u_j\, X_j$
8	$n^{-2(1+k)/(2k+3)}$
7	$\theta_{f,t+1}(q)-\theta_{f,t+1}(h)$
6	$1-e^{-\tau \varkappa (x,y)(t-(x\vee y))}$
6	$(2(k+1)-j)/(2k+3)$
6	$n^{(2(k+1)-j)/(2k+3)}$
5	$(2q+p)^2 e^{2qs}-p^2$
5	$X1_{(\tau,\theta)}+\phi_{\theta,T}(X)1_{(\theta,\infty)}$

91 (Sz: 16to20)	
#	Expr
6	$\left\{y\left(\frac{n}{N},\frac{i}{N}\right)-y\left(\frac{n-1}{N},\frac{i}{N}\right)\right\}$
5	$\sigma \Delta Y_s^{(1,n)}+\frac{1}{n}b\left(\frac{\lfloor ns\rfloor}{n}\right)$
5	$\left\{y\left(\frac{\lfloor nt\rfloor}{n},\frac{i}{n}\right)-y\left(\frac{\lfloor ns\rfloor}{n},\frac{i}{n}\right)\right\}$
3	$\left(x, v_\epsilon^\delta, Dv_\epsilon^\delta, D^2 v_\epsilon^\delta\right)$
3	$\Vert E[\vartheta_{t+1:\,w}(q)-\vartheta_{t+1:\,w}(h)\vert_t]\Vert$
3	$(\theta(F_{A,B}(x_i,y_i)-t_i))_{i=1,\ldots,n}$
3	$(z_1,\boxminus(z_2,\boxminus(\cdots\boxminus(z_D,z_{D+1})\cdots)))$
3	$\left[N\left(\frac{1}{2}-\frac{d}{\alpha}\right),N\left(\frac{1}{2}+\frac{d}{\alpha}\right)\right]$
3	$\frac{U_{00}\vartheta^{1/k+1}}{n^{2(k+1)/(2k+3)}}$
3	$f\in L^1(F_T)\vert f\geq 0\,,\, E[f]=1$

92 (Biology and other natural sciences)

92 (Sz: 2)	
#	Expr
352	$2N$
253	-1
233	I_A
187	I_U
179	S_A
162	r_0
155	β_1
130	X_k
123	S_U
123	ϵ_2
111	ij
110	i_1
104	W_k
100	i_2
96	W'

92 (Sz: 3)	
#	Expr
172	$t-1$
171	$1-s$
141	k,l
141	$n-1$
133	$\log N$
122	$K+1$
118	$\frac{3}{4}$
109	$k-1$
106	$\frac{1}{2}$
101	$i=1$
100	j,k
95	$k+1$
90	P_{I_A}
89	$1-r$
83	$1-r$

92 (Sz: 4)	
#	Expr
90	$2N-k$
77	$2N-1$
65	$T_{D;W}$
62	$(\log N)^2$
50	$P_{I\|S}$
47	X_{t-1}
45	$P_{S\|I}$
38	$(4,1^2)$
37	$P_{C\|I}$
37	N^{1-r}
35	$I_A\|S$
34	$\sum_{k\geq 0}$
30	$P_{E\|I}$
30	$\overset{def}{=}$
29	$(2,1^2)$

92 (Sz: 5)	
#	Expr
51	$\sum_{k=2}^{H}$
38	k,a,n
34	$P_{I_A\|S}$
32	$)_{t=1}^{k}$
30	$\sum_{i=1}^{n}$
30	$l=k+1$
28	$\sum_{k=1}^{N}$
27	$I_A\|S_U$
25	$P_{I_U\|S}$
22	$\Lambda^{\alpha\beta\gamma\delta}$
22	$\frac{P_I}{P_S}$
22	(s_1,s_2,t)
21	$\frac{\log n}{n}$
20	$d_{j,k}^{(f)}$
20	$L_{\partial-i\ell}$

92 (Sz: 6)	
#	Expr
33	$q_{k,a,n}$
32	$G(i,j)+1$
27	$P_{I_A\|S_U}$
20	$\frac{1}{(\log N)^2}$
17	$e^{-(1-r)t}$
16	$\frac{C}{(\log N)^2}$
15	$t_0^{h;W'}$
15	$P_{I_U\|S_A}$
15	$d+\epsilon_2+\gamma$
14	$t=\tau_J+1$

92 (Sz: 7)	
#	Expr
39	$P_{S_A}+P_{I_A}$
28	$\sum_{l=k+1}^{H}$
21	$\sum_{i=1}^{d-1}$
16	$B_{G(i,j)+1}$
13	$e^{-s_2e^{-t}}$
12	$2^{-J+j/2}$
12	$S^{-1/(1-r)}$
11	$(1-s)^{2N-k}$
11	$\sum_{l=2}^{k-1}$
10	$P_{\sigma\|\sigma'\sigma"}$
510	$k,a,n-1$

92 (Sz: 8)	
#	Expr
24	$\sum_{k=J}^{2N-1}$
16	$A_\tau^{G(i,j)+1}$
14	$\sum_{k=1}^{2N-1}$
13	$k2^\ell J+i+1$
10	$\sum_{t=\tau_J+1}^{\tau}$
10	$r(1-s)+ks$
9	$2^{J-\log J-\ell}$
9	$q_{k,a,n-1}$
7	$k=\lfloor Js\rfloor+1$
7	$\sum_{\ell=1}^{2N-1}$
7	$1-(1-s)^{k+1}$
6	T_{t_n,n,N_n}
6	$(b_0+\epsilon_2-b_2)$

92 (Sz: 9)	
#	Expr
13	$e_{k2^\ell J+i+1}$
10	$A_\tau^{G(i,j)+1}(i)$
8	$\frac{P_{I\|S}}{P_{S\|I}}$
6	$\frac{NX_k-k}{NX_k}$
6	$\frac{\tilde{V}_k}{NX_k-k}$
6	$A_\tau^{G(i,j)+1}(j)$
6	$\sum_{i=0}^{J2^\ell-1}$
6	$w\in L_{\partial-i\ell-\ell}$
5	$P_{S_A}^*+P_{I_A}^*$
5	$1-(1-s)^{2N-k}$

92 (Sz: 10)	
#	Expr
16	$P_{I_U\|S}+P_{I\|S}$
7	$\frac{4N}{sk^2(2N-k)}$
6	$(1-s)^{(l-k)/2}$
5	$[L^a(n-N^a)\|\sigma_{YZ}]$
5	$\frac{2r-1}{r-k-1}$
5	$\sum_{i=0}^{2^{J-j}-1}$
5	$e_{i+1+k2^{J-j}}$
4	$\sum_{k=\lfloor Js\rfloor+1}^{L}$
4	$e^{-s_1e^{-(1-r)t}}$
4	$R_{k,N}\geq AN^{1-r}$

92 (Sz: 11to15)	
#	Expr
10	$P_{E\|S}+P_{E\|I}\frac{P_I}{P_S}$
9	$\Gamma_{AU}P_{I_A}^*+\Gamma_{UU}P_{I_U}^*$
8	$P_{S_A\|S_U}+P_{I_A\|S_U}$
8	$\frac{\omega(r)+1}{\omega(r)-1}$
8	$\left(P_{S_A\|I_U}+P_{I_A\|I_U}\right)$
7	$[S(t),t\|x_0,t_0]$
7	$b_0+\epsilon_1-\lambda-b_1-\beta$
7	$P_{S_A\|I}+P_{I_A\|I}$
7	$P_{S_A\|S}+P_{I_A\|S}$
6	$\left[0,2^{J-\log J-\ell}-1\right]$

92 (Sz: 16to20)	
#	Expr
4	$B'_0 + B'_1 a_* + B'_2 a_*^2$
4	$\left[\frac{2r-1}{r-k} - \frac{2r-1}{r-k-1}\right]$
4	$\left(e^{-s_1 e^{-(1-r)t}}, e^{-s_2 e^{-t}}, t\right)$
4	$1 + 3P_{S_A\|I_U} + 3P_{I_A\|I_U}$
3	$\frac{l(l-1)}{(n+l-1)(n+l-2)}$
3	$\frac{(2N-k)\left(1-(1-s)^{k+1}\right)}{(2N)(k+1)}$
3	$\left(1+\frac{1}{k}\right)\ln\left(1+\frac{1}{k}\right) - \frac{1}{k}$
3	$sign\left(1+\sum_{i=2}^{d} Y_i\right) \neq sign\left(\sum_{i=2}^{d} Y_i\right)$
3	$T_n = t \| \ell_J = n, \ldots, \ell_0 = i_0$
2	$q - \log_b q - \log_b(-\log b\theta^2)$

93 (Systems theory; control)

93 (Sz: 2)	
#	Expr
1457	-1
848	t_0
847	x_0
611	ij
573	x_1
511	dt
477	p_i
462	a_1
449	$j\omega$
393	$\bar{x}$
389	X_t
375	(t,x)
362	t_j
336	ds
330	α_j

93 (Sz: 3)	
#	Expr
806	$n-1$
424	$i=1$
299	$k+1$
280	z^{-1}
258	$\int_0^t$
253	$t+1$
219	$\frac{1}{2}$
198	$j=1$
187	m,p
173	$\int_0^T$
170	$i+1$
166	$t-1$
156	$n+1$
138	ϵ, x
130	X_0^{β}

93 (Sz: 4)	
#	Expr
122	$[z,z^{-1}]$
86	x_{n-1}
82	(t_0,x_0)
76	$\frac{d}{dt}$
72	s^{n-1}
66	$A+BK$
66	$v_{\tau,h}$
65	$Y^{\beta}_{[0,t]}$
63	X_{t+1}
63	$(x-t_j)$
59	l_j, j
59	t_j, ρ
57	$\frac{V_0}{D}$
56	$\alpha_{i'_k}$
55	$\pi_t^{\beta\nu}$

93 (Sz: 5)	
#	Expr
74	$\sum_{i=1}^{N}$
70	$\frac{d\nu}{d\beta}$
64	$t+1\colon w$
61	$\sum_{j=1}^{m}$
61	$\sum_{i=1}^{n}$
57	$\sum_{i=1}^{m}$
55	h_k, ℓ_k
50	$f_{i_2 j_2}$
50	$D_{t_j,\rho}$
40	$\frac{1}{2\pi i}$
37	$\sum_{k=0}^{\infty}$
36	$\sum_{i=1}^{d}$
35	$\sum_{j=1}^{n}$
35	$\{t_1,\cdots,t_n\}$
35	$g_{i_1 j_1}$

90 (Sz: 6)	
#	Expr
42	$\frac{p_i}{1-\beta}$
28	(t_m,t_{m+1})
18	$\alpha \in P \bigcap Z^d$
17	$[s_r,s_{r+1}]$
17	$d_{j+1/2}$
17	$\sum_{i\in[r-1]}$
16	$\mathring{x}_{E^c-j}$
15	$x_{i+1/2}$
15	(A_j,A_{j-1})
14	$\min_{x\in\Gamma(X)}$

93 (Sz: 7)	
#	Expr
26	$t_j, \rho_j(t^0)$
24	$[t,x,k/n]$
20	$\sum_{i,j=1}^{n}$
20	$j_1,\ldots,j_m$
19	$i_1,\ldots,i_n$
16	$f(s)+g(s)$
15	$\sum_{\alpha=1}^{m+1}$
14	$(\lambda I_n-\theta)^{-1}$
14	$\frac{g(j\omega)}{f(j\omega)}$
14	Z_s^{ϵ,X_1}

93 (Sz: 8)	
#	Expr
29	$(i_1 j_1 i_2 j_2)$
25	$\widehat{\tau}^{g}_{x_0,x^{\flat}}$
24	$D_{t_j,\rho_j(t^0)}$
13	$\vartheta_{t+2\colon w-1}$
12	$(\leq f(x_0), x_0)$
11	$\left\|\pi_t^{\nu}-\pi_t^{\beta\nu}\right\|$
10	$(Y_+ = j \vert X = l)$
10	$s_{m-1}s_{m-1}$
9	$\lambda=1, \mu=1;$
9	$\left\vert\widetilde{Z}_T^{\epsilon,x}-z\right\vert$

93 (Sz: 9)	
#	Expr
34	$(x_1,x_2,\cdots,x_{n-1})$
22	$(s,x^*(s),u^*(s))$
17	$\frac{c(j\omega)}{a(j\omega)}$
16	$(t,x(t),u(t))$
14	$\frac{n(s,q)}{d(s,q)}$
12	$\{1,2,\cdots,n-2\}$
12	$[q(\varrho,w,z,0)+\eta_1]$
11	$\frac{c(j\omega)}{b(j\omega)}$
11	$[a(x,\alpha)D^2V(x)]$
11	$(i_1,\cdots,i_n;s)$
10	$(s,x_l(s),u_l(s))$
10	$A_1^{\bigotimes k}+A_2^{\bigotimes k}$
9	$I+BR^{-1}B'P$

93 (Sz: 10)	
#	Expr
19	$\langle\ldots:\langle X_s\colon g_j\rangle\rangle\ldots$
8	$a^{(m-1)}_{s_{m-1}s_m}$
8	$-\int_0^t a(s)\,ds$
8	$(\delta_{h_k,\ell_k}v_r^-)^2$
7	$\left(-\infty,\ln\frac{2V_0}{D}\right)$
7	$(\psi_{0\colon T-2},\rho_{T-1})$
6	$(\theta_n^{\mu}, Z_n^{\mu}(\theta_n^{\mu}))$
6	$f^N_{T\vert T}-f_{T\vert T}$
6	$\inf_{T_i\in L(U_i,V_i)}$
6	$e^{\int_0^t c^{\lambda}(s)\,ds}$

93 (Sz: 11to15)	
#	Expr
20	$\langle \ldots : \langle Y_{s_2} \colon g_k \rangle \rangle \ldots$
20	$\langle Y_2 \colon \langle \ldots : \langle Y_{s_2} \colon g_k \rangle \rangle \ldots \rangle$
19	$\langle X_2 \colon \langle \ldots : \langle X_s \colon g_j \rangle \rangle \ldots \rangle$
16	$\frac{dQ_n^{\nu}}{dQ_n^{\beta}}$
15	$(t, x(t), u(t), s)$
15	$s^n + a_1 s^{n-1} + \cdots + a_n$
12	$a_2 x_1 + x_3 - a_1 x_2 - a_3$
11	$\lambda \neq \mu, \lambda \neq \nu, \mu \neq \nu$
10	$\frac{g_{i_1 j_1}(j\omega)}{f_{i_2 j_2}(j\omega)}$
10	$\langle X_2 \colon \langle \ldots : \langle X_{s_1} \colon g_j \rangle \rangle \ldots \rangle$

93 (Sz: 16to20)	
#	Expr
16	$\langle X_1 \colon \langle X_2 \colon \langle \ldots : \langle X_s \colon g_j \rangle \rangle \ldots \rangle \rangle$
16	$\langle Y_1 \colon \langle Y_2 \colon \langle \ldots : \langle Y_{s_2} \colon g_k \rangle \rangle \ldots \rangle \rangle$
13	$s^{n-1} + x_1 s^{n-2} + \cdots + x_{n-1}$
10	$\langle X_1 \colon \langle X_2 \colon \langle \ldots : \langle X_{s_1} \colon g_j \rangle \rangle \ldots \rangle \rangle$
10	$\{-DV(x) \cdot f(x,\alpha) - trace[a(x,\alpha) D^2 V(x)]\}$
8	$(t, x(t), u(t), \psi_0, \psi(t), \lambda)$
7	$\langle X_2 \colon \langle X_3, \ldots : \langle X_{s_1} \colon g_j \rangle \rangle \ldots \rangle$
6	$\int \pi_{n-1}(v) \lambda(v, v') \psi(dv)$
6	$\frac{f_{i_2 j_2}(s)}{f_{i_2 j_2}(s) + g_{i_1 j_1}(s)}$
6	$(a_2 x_1 + x_3 - a_1 x_2 - a_3)^2$

94 (Information and communication, circuits)

94 (Sz: 2)	
#	Expr
1650	-1
808	θ_{1}
778	θ_{2}
778	x_{1}
669	L^{2}
567	(x,y)
524	θ_{3}
465	a_{1}
458	z^{2}
429	x^{2}
428	X_{1}
418	x_{2}
407	m_{1}
402	h_{k}
374	z_{1}

94 (Sz: 3)	
#	Expr
729	$\frac{1}{2}$
550	$n-1$
503	$i=1$
253	$i \in I$
253	$k-1$
234	$j=1$
227	$N-1$
217	$p-1$
208	$i-1$
205	$i=0$
200	$1/2$
174	$n+1$
172	$j=0$
165	$(n-k)$
163	z^{-1}

94 (Sz: 4)	
#	Expr
122	$[z,z^{-1}]$
122	$\sum_{i \in I}$
99	2^{n-1}
98	$-1/2$
77	$\frac{1}{\sqrt{2}}$
71	$-\frac{1}{2}$
64	$\lim_{n \to \infty}$
61	(z_{1},z_{2})
59	(X_{1}^{n},D)
48	$O(1)$
45	$2L+3$
45	F_{t}^{2N}
43	$1-2m$
38	$2n-1$
36	(v_{1},v_{2})

94 (Sz: 5)	
#	Expr
102	$\theta_{1} \bigcup \theta_{2}$
89	$\theta_{1} \bigcap \theta_{2}$
50	$[0,\infty)$
48	$\frac{N-1}{2}$
46	$(x_{1},\ldots,x_{n})$
43	$\sum_{j=1}^{n}$
37	F_{t}/F_{s}
36	$(n,d-1)$
36	$\sum_{i=1}^{k}$
34	$\sum_{i=1}^{N}$

94 (Sz: 6)	
#	Expr
48	(z_{1},z_{2},z_{3})
40	(v_{1},v_{2},v_{3})
17	$(\Phi_{l}^{*}\Phi_{l'})$
16	${v_{i}}' \bigoplus x'$
15	$\sum_{d \mid p-1}$
14	$(1+\|x\|+\|y\|)^{N}$
14	$\cos\left(\frac{p\pi}{2}\right)$
14	$\left\langle h_{k} D_{x} \right\rangle^{-s}$
14	$\left\|\lambda_{1}-\bar{\lambda}\right\|^{2}$
14	$p_{n,k,t}$

94 (Sz: 7)	
#	Expr
80	$\frac{q(x)}{p(x)}$
35	$\frac{q(y)}{p(y)}$
30	$\sum_{i=0}^{N-1}$
27	$\frac{\Delta^{i} f(x)}{i}$
25	$2s+2p+K$
24	$(L+2,L;K)$
23	$k/b,l/a$
21	$(W_{1}(t),W_{2}(t))$
21	$\left(x^{n} \middle\| \widehat{\theta}(x^{n})\right)$
20	$(x,\xi+2\pi n)$

94 (Sz: 8)	
#	Expr
22	$(z_{1},z_{2},z_{3},z_{4})$
20	$kp^{\lambda-1}+p^{\lambda}$
19	$\theta_{1} \bigcap \theta_{2} \bigcap \theta_{3}$
16	$g_{k/b,l/a}$
16	$\{\theta_{1},\theta_{2},\theta_{3},\theta_{4}\}$
12	$\left(I-\bar{\lambda}S_{0}\right)^{-1}$
12	$(\theta_{1} \bigcup \theta_{2} \bigcup \theta_{3})$
11	$\frac{j+K+2p}{2}$
10	$(A_{i} \| C_{Y,Y'})$
10	$(\theta_{3} \| \theta_{3} \bigcup \theta_{4})$

94 (Sz: 9)	
#	Expr
27	$\left\|e^{i\theta_{j}}-e^{i\theta_{k}}\right\|$
25	$\frac{2s+2p+K}{2}$
16	$(X_{1},\cdots,X_{n}\colon B)$
15	$\Delta^{kp^{\lambda-1}+p^{\lambda}}$
14	$(T=f \| T=(p \bigcap b))$
14	$\{0,1,\ldots,p-1\}$
10	$\left\|\frac{q(x)}{p(x)}-1\right\|$
10	$\frac{n+r-1}{r-1}$
10	$\{e_{\chi\psi},e_{\chi\omega},e_{\psi\omega}\}$
10	$k\frac{Nb}{a},\frac{N}{2}$

94 (Sz: 10)	
#	Expr
27	$\left\lvert e^{i\theta_j} - e^{i\theta_k} \right\rvert^2$
15	$X_1 \bigcap X_2 \bigcap \ldots \bigcap X_k$
12	$\frac{\gamma_1 \gamma_2}{\gamma_1 + \gamma_2}$
11	(a,b,c_0,c_1,c_2,c_3)
10	$\frac{j+K+2(p+1)}{2}$
8	$((X_1,\cdots,X_n),(Y_1,\cdots,Y_n))$
8	$e^{\frac{\lambda^2 q}{2} - \lambda^4 q}$
7	$\left(T = \bar{f} \vert T = (p \bigcap b)\right)$
7	$i_1, i_2, \ldots, i_r$
7	$\frac{2^n}{V(n,d-1)}$

94 (Sz: 11to15)	
#	Expr
23	$(a_1, \cdots, a_n : b_1, \cdots, b_m)$
18	$X_1, X_2, \ldots, X_k \in D^{\Theta}$
15	$\left(A^{-1/2} B A^{-1/2}\right)$
13	$\Delta^{kp^{\lambda-1}+p^{\lambda}} f(x)$
12	$(W(t_1), W(t_2), p)$
12	$(\lg M + \lg D)^{O(1)}$
12	$(1 - \delta_m^2 (\Phi_l^* \Phi_{l'}))$
10	$(X_1 \bigcap X_2 \bigcap \ldots \bigcap X_k) = A$
9	$\psi^{\Lambda}_{k\frac{Nb}{a},\frac{N}{2}}$
9	$n_1, n_2, n_3; n'$

94 (Sz: 16to20)	
#	Expr
9	$(a,b,c,,\{e_{\chi\psi},e_{\chi\omega},e_{\psi\omega}\},\{\theta_{\chi\psi\omega}\})$
8	$\left\lceil g\left\lceil \frac{q(x)}{p(x)} \right\rceil - g\left\lceil \frac{q(y)}{p(y)} \right\rceil \right\rceil$
5	$\left(D_K^{2L+3} \left\lvert D_K^{2L+4} \right\rvert \cdots \lvert D_K^{3L+3}\right)$
5	$\left[\left\lvert \frac{q(x)}{p(x)} - 1 \right\rvert - \left\lvert \frac{q(y)}{p(y)} - 1 \right\rvert\right]$
5	$i \sum_{k=1}^{2K} (-1)^k \phi\left(t_{n+1}^{(k)}\right)$
5	$\sum_{j_1,j_2} S_{j_1} S_{j_2} y_{j_1,j_2}$
5	$e^{i \sum_{k=1}^{2K} (-1)^k \phi\left(t_{n+1}^{(k)}\right)}$
4	$\left(g\left\lceil \frac{q(x)}{p(x)} \right\rceil - g\left\lceil \frac{q(y)}{p(y)} \right\rceil\right)$
4	$\{(x,y) \vert \langle (x,y), v_i \rangle \geq -d_i, \forall i\}$
4	$i \sum_{j=1}^{2n} \omega_j (t_j - t_{j+1})$

97 (Mathematics education)

97 (Sz: 2)	
#	Expr
175	dx
125	θ_n
123	x^2
101	$2m$
79	θ_m
69	$2k$
64	e^x
63	L^2
61	$\sqrt{3}$
58	$2n$
49	$2x$
48	θ_p
29	N^2
28	RB
28	x_1

97 (Sz: 3)	
#	Expr
59	$k+1$
41	$n-1$
28	$k=1$
24	J^{2k}
20	$\frac{1}{2}$
17	$1/2$
16	$\frac{\pi}{2}$
14	i,j
14	$h \to 0$
12	$x-1$
11	$x+h$
11	$\lvert BC\rvert^2$
11	$\lvert AC\rvert^2$
11	$j=1$
11	$i=1$

97 (Sz: 4)	
#	Expr
26	$2k-1$
22	$2m-1$
20	n_{k+1}
18	$2n-1$
14	$\min -total$
14	$x+dx$
14	$\lim_{h\to 0}$
12	$\tan\theta_n$
12	x^2+1
12	$N-2m$
11	$\max -total$
9	x^{n-1}
9	$3x+6$
9	$2m-2$
8	$\tan\theta_m$

97 (Sz: 5)	
#	Expr
24	j^{2k-1}
12	j^{2n-1}
11	$\theta_{n_{k+1}}$
11	j^{2m-1}
11	$B^N O R^N$
10	$3+2\sqrt{3}$
9	$A_{\min -total}$
9	$k=n-1$
7	R^{N-2m}
7	$\frac{\pi}{I-n}$
7	$A_{\max -total}$
6	$\sum_{i=1}^{3}$
6	$\sum_{k=1}^{n}$
6	$\frac{x^2}{4n}$
6	$R^N O B^N$

97 (Sz: 6)	
#	Expr
24	$N-2m+1$
14	$N-2m+2$
9	$(RB)^{2m-1}$
9	$(RB)^{2m-2}$
5	$m=n=p$
4	$(x-1)(x+3)$
4	$\theta_n \to \frac{\pi}{2}$
4	$(BR)^{2n-1}$
3	$nL\tan\theta_m$
3	$\left(2-\sqrt{3}\right)L^2$

97 (Sz: 7)	
#	Expr
15	B^{N-2m+1}
9	R^{N-2m+1}
9	R^{N-2m+2}
9	$\prod_{k=n-1}^{1}$
7	x^2+2x-3
7	$4+3\sqrt{3}+\pi$
6	$j=1, j\neq l$
6	$\prod_{k=1}^{n-1}$
6	$\sum_{l=1}^{k+1}$

97 (Sz: 8)	
#	Expr
6	$\widetilde{A},\widetilde{B},\widetilde{C}$
4	$8+\pi\left(1+\sqrt{2}\right)$
3	$\left(4+3\sqrt{3}+\pi\right)^2$
3	$\frac{\left(2-\sqrt{3}\right)L^2}{8}$
2	$\frac{\frac{1+\cos 2x}{2}}{2}$
2	$\frac{L_m^2}{4(I-n)}$
2	$\frac{x^{p+1}}{p+1}$
1	$\frac{2nA}{\tan\theta_n}$
1	$e^{-\sin x\cos x}$
1	$\frac{x+1}{x^2+1}$

97 (Sz: 9)	
#	Expr
4	$f(x+h)-f(x)$
3	$RO(BR)^{2n-1}B$
2	$j=1, j\neq l, b$
2	$\sin(x+h)-\sin x$
2	$y(x_2)-y(x_1)$
2	$A_{\min -total}^{(m=n)}$
2	$\frac{\pi}{2}-\frac{\pi}{I-n}$
1	$j=1, j\neq i, b$
1	$\frac{\left(x^2-1\right)}{\left(x^2+1\right)}$

97 (Sz: 10)	
#	Expr
3	$y(x+dx)-y(x)$
2	$z^{n_1+1},\cdots,z^n$
2	$L^2\tan\theta_n\tan\theta_m$
2	$8nA-L^2\tan\theta_n$
1	$L^2\tan\theta_p\tan\theta_m$
1	$pL\tan\theta_n\tan\theta_m$
1	$\gamma\cot^2\gamma-\cot\gamma+\gamma$
1	$\beta\cot^2\beta-\cot\beta+\beta$
1	$\alpha\cot^2\alpha-\cot\alpha+\alpha$
1	$b_0 \quad b_1 \quad \cdots \quad b_k \quad 0 \quad \cdots \quad 0$

97 (Sz: 11to15)	
#	Expr
8	$m\tan\theta_n+n\tan\theta_m$
7	$\frac{3x+6}{x^2+2x-3}$
5	$B^{N-2m}O(RB)^{2m}R^{N-2m}$
5	$\prod_{j=1,j\neq l}^{k+1}$
4	$8\left(3+2\sqrt{3}\right)A-L^2\sqrt{3}$
4	$\frac{f(x+h)-f(x)}{h}$
3	$n\tan\theta_m+m\tan\theta_n$
3	$n\tan\theta_p+p\tan\theta_n$
2	$m\tan\theta_p+p\tan\theta_m$
2	$\lvert AC\rvert^2+\lvert BC\rvert^2-\lvert AB\rvert^2$

97 (Sz: 16to20)	
#	Expr
2	$\frac{y(x+dx)-y(x)}{(x+dx)-x}$
2	$S_3^1e_1+S_3^2e_2+S_3^3e_3$
2	$\sqrt{\frac{8nA-L^2\tan\theta_n}{\tan\theta_n}}$
1	(6,1), (1,6), (5,2), (2,5), (4,3), (3,4)
1	$B^{N-2m+1}RO(RB)^{2m-1}R^{N-2m}$
1	$\frac{\lvert AC\rvert^2+\lvert BC\rvert^2-\lvert AB\rvert^2}{2\lvert AC\rvert\lvert BC\rvert}$
1	$\sqrt{\frac{\lvert AB\rvert^2+\lvert BC\rvert^2-\lvert AK\rvert^2-\lvert CK\rvert^2}{2}}$
1	$\frac{25\left(4+3\sqrt{3}\right)}{3\pi\sqrt{3}+4\pi+48\sqrt{3}}$
1	$\frac{\pi}{n}+\frac{\pi}{n}\cot^2\left(\frac{\pi}{n}\right)-\cot\left(\frac{\pi}{n}\right)$
1	$\sin x\centerdot(\cos h-1)+\cos x\centerdot\sin h$

Bibliography

[1] David Carlisle, Patrick Ion, Robert Miner, Nico Poppelier, Editors. *Mathematical Markup Language (MathML) Version 2.0 (Second Edition)*. W3C Recommendation. `http://www.w3.org/TR/2003/REC-MathML2-20031021/`. October 21, 2003.

[2] Yi-Min Chee, Jose-Antonio Magaña, Katrin Franke, Max Froumentin (editor), Gregory Russell, Sriganesh Madhvanath, Giovanni Seni, Christopher Tremblay, Larry Yaeger. *Ink Markup Language (Working Draft)*. `http://www.w3.org/TR/2004/WD-InkML-20040928/`. Septeber 28, 2004.

[3] *Jot Software* `http://www.cic.com/products/jot/`

[4] *The Unipen Project*. `http://hwr.nici.kun.nl/unipen/`

[5] *Mathematics on the Net (MONET) Project* `http://www.orcca.on.ca/MONET`

[6] *OpenMath Society*. `http://www.openmath.org`

[7] *PVS Specification and Verification System*. `http://pvs.csl.sri.com`

[8] *arXiv e-Print Server*. `http://xxx.lanl.gov`
(Mirror sites: `http://www.arxiv.org`, `http://aps.arxiv.org`)

[9] *Mathematical Subject Classification (2000)*. American Mathematical Society. `http://www.ams.org/msc`

[10] Ontario Research Centre for Computer Algebra. Online TEX to MathML translator. `http://www.orcca.on.ca/MathML/texmml/textomml.html`. 2002.

[11] Maple Computer Algebra System. `http://www.maplesoft.com`

[12] Mathematica. `http://www.wolfram.com/products/mathematica/index.html`

[13] Andrew A. Adams. *Digital Lookup Tables and Real Number Theorem Proving*. First International Workshop on Mathematical Knowledge Management (MKM2001). Linz. Austria. September 24 – 26, 2001.

[14] Benjamin P. Berman, Richard J. Fateman. *Optical Character Recognition for Typeset Mathematics*. International Symposium on Symbolic and Algebraic Computation 1994 (ISSAC'94). July 20-22, 1994.

[15] Dorothea Blostein and Ann Grbavec. *Recognition of Mathematical Notaion*. Handbook on Optical Character Recognition and Document Image Analysis. P.S.P. Wang and H. Bunke, Editors. World Scientific Publishing Company, 1996.

[16] Paul Cairns. *Informalising Formal Mathematics: Searching the Mizar Library with Latent Semantics*. Third International Conference on Mathematical Knowledge Management 2004. Bialowieża, Poland. September 19 – 21, 2004. Springer-Verlag. LNCS Volumne 3119/2004. Page 58 – 72.

[17] Olga Caprotti, Mike Dewar, Daniele Turi. *Mathematical Service Matching Using Description Logic and OWL*. Third International Conference on Mathematical Knowledge Manage 2004. Bialwieża, Poland. September 19 – 21, 2004. Springer-Verlag. LNCS Volumne 3119/2004. Page 73 – 87.

[18] Kevin Durdle, *Supporting Mathematical Handwriting Recognition through an Extended Digital Ink Framework*. MSc. Thesis. University of Western Ontario. December 2004.

[19] Rob Jarret and Phillip Su. *Building Tablet PC Applications*. Microsoft Press. 2003.

[20] Stéphane Lavirotte. *Reconnaissance structurelle de formules mathématiques typographieées et manuscrites*. PhD. Thesis. Université de Nice - Sophia Antipolis. École Doctorale des Sciences et Technologies de l'Information et de la Communication. Institut National de Recherche en Informatique et Automatique (INRIA). June 14, 2000.

[21] Hanane Naciri. *Conception et réalisation d'outils pout l'interaction homme machine dans les environements de démonstrations mathématiques*. PhD. Thesis. Université de Nice - Sophia Antipolis. December 11, 2002.

[22] Gordon D. Plotkin. *A Note on Inductive Generalization*. Machine Intelligence 5. Edinburgh University Press. Page 153-163. 1969.

[23] J.C. Reynolds. *Transformational Systems and the Algebraic Structure of Atomic Formulas*. Machine Intelligence 5. Edinburgh University Press. Page 135-152. 1969.

[24] J. A. Robinson. *A machine-oriented logic based on the resolution principle*. Journal of the ACM. Page 23-41. 1965.

[25] Elena S. Smirnova, Clare M. So, Stephen M. Watt. *An Architecture for Distributed Mathematical Web Services*. Third International Conference on Mathematical Knowledge Management 2004. Bialowieża, Poland. September 19 – 21, 2004. Springer-Verlag. LNCS Volumne 3119/2004. Page 363 – 377.

[26] Clare M. So and Stephen M. Watt. *Conversion Between Content MathML and OpenMath*. International Conference on Applications of Computer Algebra. Raleigh, North Carolina. July 28 –31, 2003.

[27] Clare M. So and Stephen M. Watt. *Determining Empirical Characteristics of Mathematical Expression Use*. Fourth International Conference on Mathematical Knowledge Management 2005. Bremen, Germany. July 15-17, 2005. (to appear)

[28] Bo Wan. *An Interactive Mathematical Handwriting Recognizer for the Pocket PC*. MSc. Thesis. University of Western Ontario. December 2001.

[29] Stephen M. Watt. *Conserving Implicit Matheamtical Semantics in Conversion between TEX and MathML*. TUGBoat, Vol. 23, No. 1, Page 108. 2002.

[30] Cosmin Oancea, Clare So and Stephen M. Watt. *Generalization in Maple*. Maple Conference 2005, Maplesoft. July 17-21, 2005.

[31] Xiaojie Wu. *Achieving Interoperability of Pen Computing with Heterogeneous Devices and Digital Ink Formats*. MSc. Thesis. Unversity of Western Ontario. December 2004.

[32] Xiaofang Xie and Stephen Watt. *Handwritten Mathematical Symbol Recognition for Computer Algebra Applications*. East Coast Computer Algebra Day (ECCAD) 2005. Ashland, Ohio. March 12, 2005. Available: `http://www.orcca.on.ca/PenMath/materials/posters/`

VITA

Name	Clare Man Yin So
Post-secondary Education and Degrees	The University of Western Ontario London, Ontario, Canada 2003–2005 MSc. The University of Western Ontario London, Ontario, Canada 1999–2003 BSc.
Honours and Awards	Ontario Graduate Scholarship in Science and Technology (OGSST) 2004 Special University Scholarship (SUS) University of Western Ontario 2003–2004 Undergraduate Student Research Awards (USRA) Natural Sciences and Engineering Research Council of Canada Summer 2003
Related Work Experience	Teaching Assistant The University of Western Ontario 2003–2004 Research Assistant Ontario Research Centre for Computer Algebra (ORCCA) The University of Western Ontario Summer 2002

Forthcoming Publication

Clare M. So, Stephen M. Watt. *Determining Empirical Characteristics of Mathematical Expression Use.* Fourth International Conference on Mathematical Knowledge Management (MKM) 2005. Bremen, Germany. July 15 – 17, 2005. Springer-Verlag.

Publications

Clare M. So, Mark Perry, Stephen M. Watt. *Towards an Accessible Web through Semantic Web Standards.* The 2005 International Conference on Computers for People with Special Needs (CPSN'05), World Congress in Applied Computing. Las Vegas, Nevada. June 20 – 23, 2005. CSREA Press. ISBN: 1-932415-78-5. Page 10 – 16.

Elena S. Smirnova, Clare M. So, Stephen M. Watt. *An Architecture for Distributed Web Services.* Third Internationall Conference on Mathematical Knowledge Management (MKM) 2004. Białowieża, Poland. September 19 – 21, 2004. Springer-Verlag. LNCS Volumne 3119/2004. Page 363 – 377.