

**MATHEMATICS 101 Section 211**

**Quiz #6, March 5, 2012**

*Show all your work. Use back of page if necessary. Calculators are not allowed.*

*If you are asked to evaluate a definite integral and the integral is divergent, show that it is divergent.*

**Last Name:**

**First Name:**

**UBC Stud. No.:**

- 1) Find the centroid (centre of mass) of the curve  $f(x) = e^x$  between the  $x$ -axis on the interval  $0 \leq x \leq 1$ . (4 points)

- 2) Evaluate  $\int_{-1}^1 \frac{dx}{x}$ . (3 points)

- 3) Solve  $y$  given that  $\frac{dy}{dx} = \frac{e^{\arctan(x)} \csc(y)}{1+x^2}$ . (3 points)