

**MATHEMATICS 101 Section 201**

**Quiz #3, January 30, 2012**

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

**Last Name:**

**First Name:**

**UBC Stud. No.:**

- 1) Find the area of the region  $R$  enclosed by  $y = \sqrt{x} + 1$  and  $y = 2x + 1$ . (4 points)
- 2) The curves  $y = x^4 - 2x^2 + 2x + 1$ ,  $y = x^4 - 2x^2 + 1$  and  $x = c$  where  $c \in \mathbb{R}$ ,  $c > 0$  bound a region of area of 36. Find  $c$ . (3 points)
- 3) Find the volume of revolution of the region bounded by  $x = e^y$ ,  $y = \ln(2)$  and  $x = 1$  when revolved around the line  $x = -1$ . (3 points)