Quiz Week 4
Math 102, Spring 2009

Name:

1. a. Draw a sketch of the set bounded by the curves $y = x^2$, $y = 0$, $x = 2$ and $x = 4$.

b. Find the volume of the region gotten by revolving the above set about the x axis.

c. Set up (but do not evaluate) an integral that would give the volume of the region gotten by revolving the set in (a) about the y-axis.

2. Let $f(t) = 500 + 3t$ denote the number of people (in thousands) per month who have lost their job. Time $t$ is measured in months with $t = 0$ corresponding to January 1, 2008.

a. Graph $f(t)$. 
b. What is the average rate of job loss per month between January 1, 2008 and January 1, 2009? What are the units for your answer?

c. Is there a time at which $f(t)$ equals this average rate?