Name: _____

Quiz 4

Math 252

You have 20 minutes to complete this quiz. When you're finished, first check your work if there is time remaining, then turn it in. You may use your class notes (i.e. not the online notes), and a scientific calculator, but not a graphing one. You may not consult other people or the internet. **Show all your work.**

1. (4 points) If the graph of $f(x)$ is revolved about the y-axis, which variable should we integrate with respect to in order to have the cross-sections be circles (or washers)? You don't need to explain your reasoning.

2. (8 points) Find the area of the region bounded by the graphs of $f(x) = x^2$ and $g(x) = 2 - x^2$.

3. (8 points) The graph of $y = 2x + 1$ is rotated about the y-axis. Find the volume of the solid produced between $y = 1$ and $y = 5$. You may use any method you like.