Math 19B Quiz: August 10, 2012 Name: _____

Show all work and make sure to give exact answers. Good luck, and enjoy your weekend!

For all problems let $\mathcal{R}$ be the region bound by $y = x^2$ and $y = x$.

1. *(5 points)* Find the area of $\mathcal{R}$.

2. *(5 points)* Find the volume of the solid obtained by revolving $\mathcal{R}$ around $y = -1$.

3. *(5 points)* Find the volume of the solid obtained by revolving $\mathcal{R}$ around the y-axis.

4. *(5 points)* Let $\mathcal{R}$ be the base of a solid. Cross-sections perpendicular to the x-axis are squares. Find the the volume of this solid.