Name: _____ Math 232 Quiz 1

**1.** (10 pts) Find the area of the region enclosed by the given curves.

(a) $y = x^2,\ y = x + 2$

(b) $x = 2y^2,\ x = y^2 + 1$ (note the direction of the parabolas)

**2.** (10 pts) The region enclosed by the given curves is rotated about the specified axis. Find the volume of the resulting solid using cross-sections.

(a) $y = \sqrt{x},\ y = x;$ about the $x$-axis

(b) $y = x^2,\ y = 0,\ x = 1;$ about $x = 1$ (set up the integral only)