Name: _____ Math 232 Quiz 2

1. (10 pts) The region enclosed by the given curves is rotated about the specified axis. Find the volume of the resulting solid using *the method of cylindrical shells*.

(a) $y = x^2,\ y = 0,\ x = 1;$ about $x = 3$ (set up the integral only)

(b) $y = \sqrt{x},\ y = x;$ about the x-axis (set up the integral only)

2. (10 pts) Find the exact length of the curve.

(a) $y = \frac{2}{3}x^{\frac{3}{2}},\ 0 \leq x \leq 3$

(b) $y = \frac{1}{3}x^{\frac{3}{2}} - x^{\frac{1}{2}},\ 1 \leq x \leq 4$ (simplify the integral only)