

Name: _____

This quiz covers: 6.1 and the early part of 6.2

Directions: Complete all questions and **show all applicable work**. Partial credit will be given.

1.) Given the functions:

$$y = x^2 \quad \text{and} \quad y = 4 \quad \text{and} \quad x = 0$$

(A) Draw a figure showing the three functions and shade the area enclosed by the functions, then (B) find the enclosed area.

2.) Given the functions:

$$x = y^2 - 4 \quad \text{and} \quad x = 0$$

(A) Draw a figure showing the two functions and shade the area enclosed by the functions, then (B) find the enclosed area.

3.) Show, using integrals, that the volume of a sphere with radius 1 is $\frac{4}{3}\pi$.