

Name _____

Volume and Area Review

1. Find the area between the curves: $y = 11 - 7x - x^2$ and $y = 1 - 4x$

a) Find the points of intersection algebraically.

b) Sketch a graph showing the points you found in part a.

c) Find the area.

2. Find the area between the curves: $y = x^2$ and $y = x + 2$

a) Find the points of intersection algebraically.

b) Sketch a graph showing the points you found in part a.

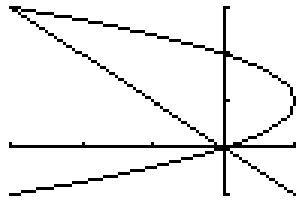
c) Find the area.

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3. Find the area between the curves: $x = 2y - y^2$ and $x = -y$.

a) Find the points of intersection algebraically.

b) Use the sketch below, fill in the points of intersection found in part a.



c) Find the area (with respect to y).

4. Find the volume of the solid generated by revolving the following region about the given axis:

$$y = x^3, \quad y = 0, \quad \text{and} \quad x = 2$$

a) Sketch the region.

b) Find the volume when revolved about the x -axis.

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c) Find the volume when revolved about the y-axis.

5. Find the volume of the solid generated by revolving the following region about the given axis:

$$y = x^2, \quad y = 0, \quad \text{and} \quad x = 3$$

a) Sketch the region.

b) Find the volume when revolved about the x-axis.

c) Find the volume when revolved about the y-axis.