Calculus AB   Name_____
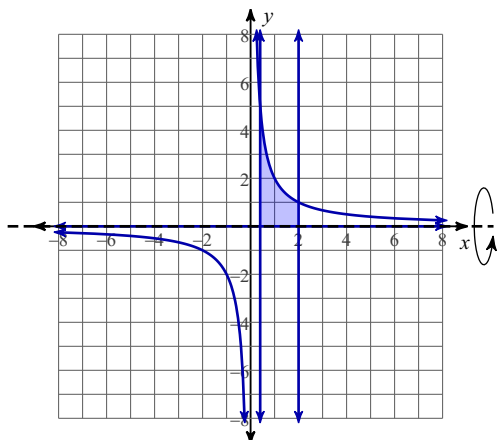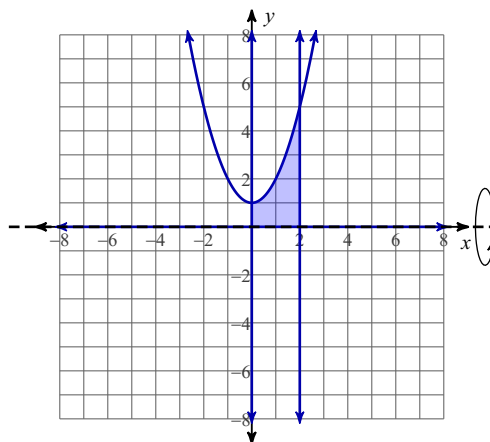
Worksheet 19 - Solids of Revolution with Washers   Period_____

For each problem, find the volume of the solid that results when the region enclosed by the curves is revolved about the the *x*-axis.

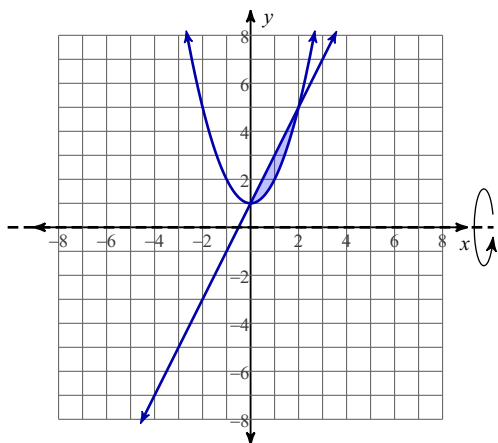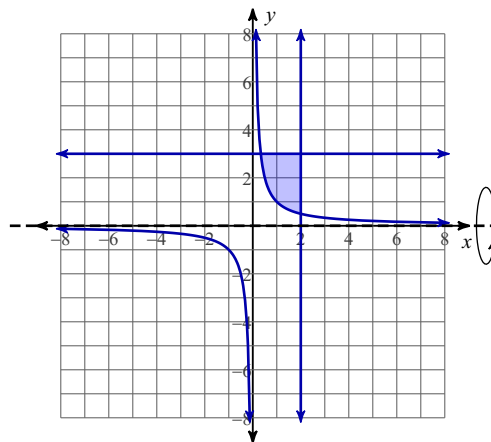1) $y = \dfrac{2}{x}, \ y = 0, \ x = \dfrac{2}{5}, \ x = 2$

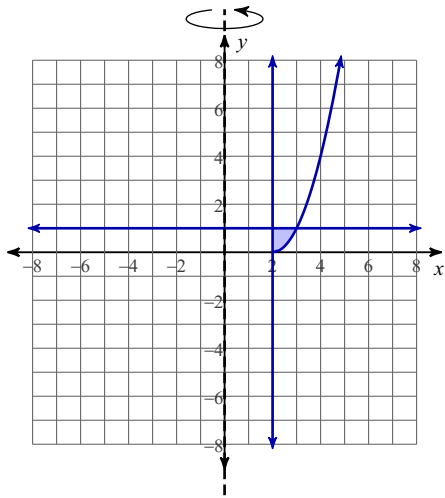2) $y = x^2 + 1, \ y = 0, \ x = 0, \ x = 2$

3) $y = 2x + 1$, $y = x^2 + 1$

4) $y = 3$, $y = \dfrac{1}{x}$, $x = 2$

For each problem, find the volume of the solid that results when the region enclosed by the curves is revolved about the the *y*-axis.

5) $x = \sqrt{y} + 2$, $x = 2$, $y = 1$

6) $x = -y^2 + 6$, $x = -y + 4$, $y = 0$, $y = 1$

7) $y = \sqrt{6-x}, \ y = -\sqrt{6-x}, \ x = 2$

8) $y = 2x - 2, \ y = x^2 - 2x + 1$

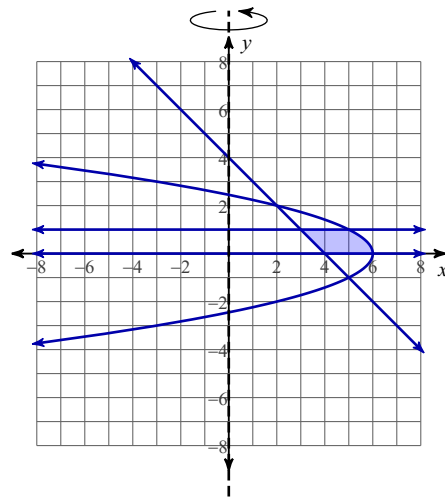**For each problem, find the volume of the solid that results when the region enclosed by the curves is revolved about the the *x*-axis.**

9) $x = 1, \ x = \sqrt{y-2}, \ y = 2$

10) $x = 2, \ x = \sqrt{y-2}, \ y = 2$