AP Calculus AB   Name_____
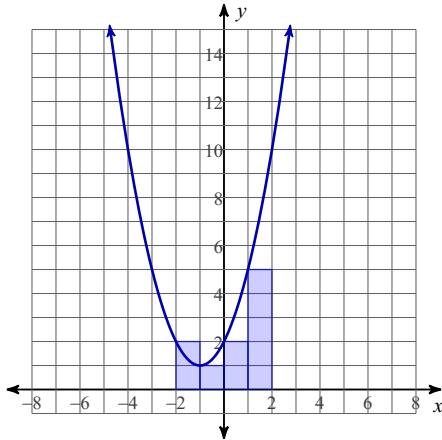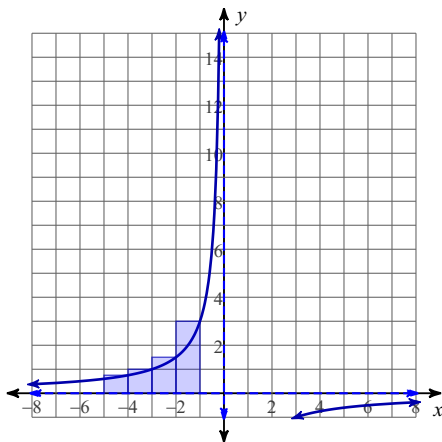
5.1 Area Under a Curve

Period____

For each problem, approximate the area under the curve over the given interval using 4 left endpoint rectangles.

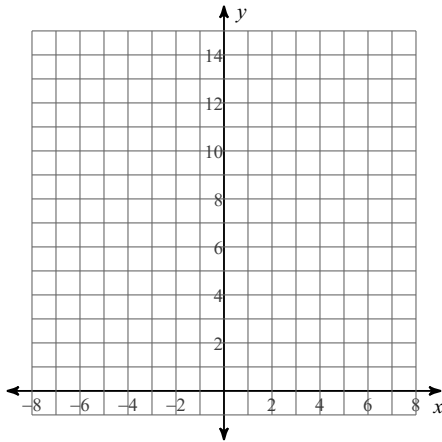1) $y = x^2 + 2x + 2$; $[-2, 2]$

For each problem, approximate the area under the curve over the given interval using 4 right endpoint rectangles.
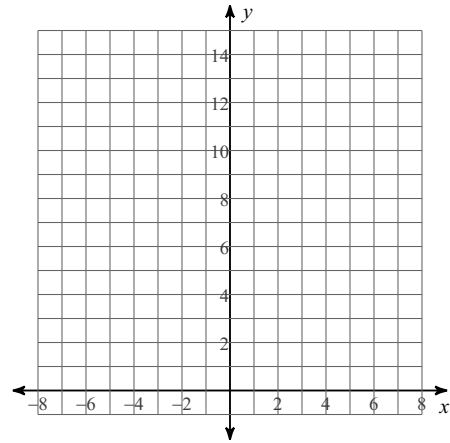
2) $y = -\dfrac{3}{x}$; $[-5, -1]$

For each problem, approximate the area under the curve over the given interval using 4 left endpoint rectangles. You may use the provided graph to sketch the curve and rectangles.
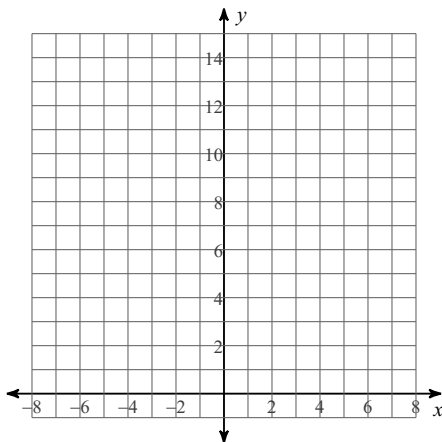
3) $y = x^2 - 2x + 3$; $[0, 2]$

4) $y = \dfrac{3}{x}$; $[1, 5]$

For each problem, approximate the area under the curve over the given interval using 5 right endpoint rectangles. You may use the provided graph to sketch the curve and rectangles.

5) $y = -x^2 + 2x + 9$; $[-1, 4]$

6) $y = -\dfrac{x^2}{2} + 6$; $[-3, 2]$