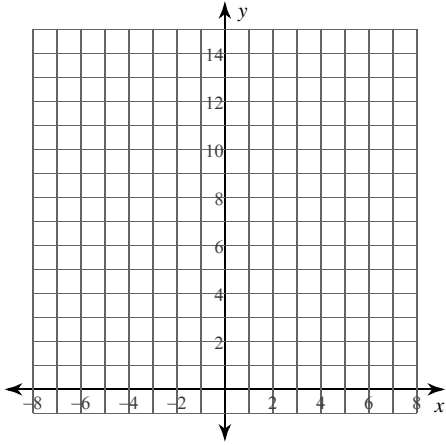


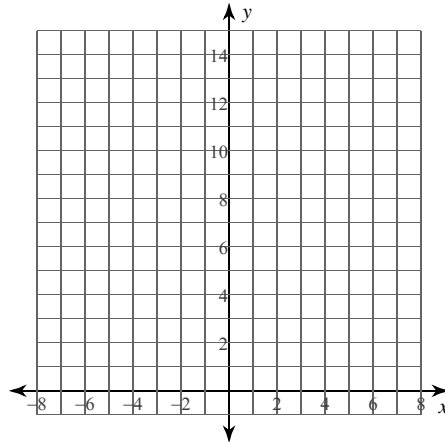
Calculus Practice: Riemann Sums 1b

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.

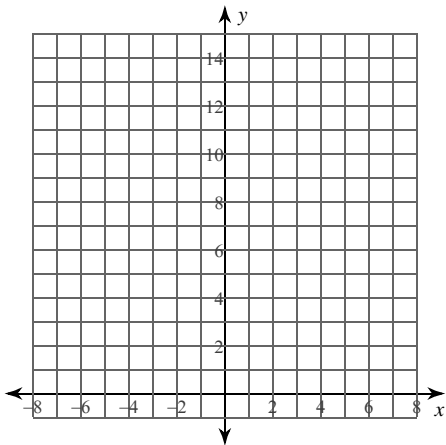
1) $y = \frac{x}{2} + 6; [-3, -1]$



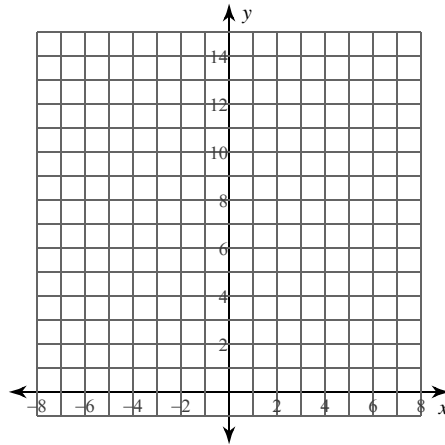
2) $y = x + 5; [0, 2]$



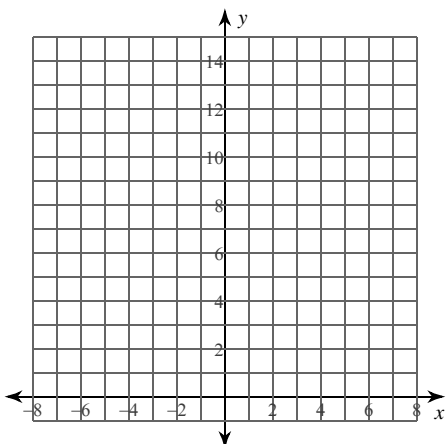
3) $y = -\frac{x}{2} + 5; [-5, -3]$



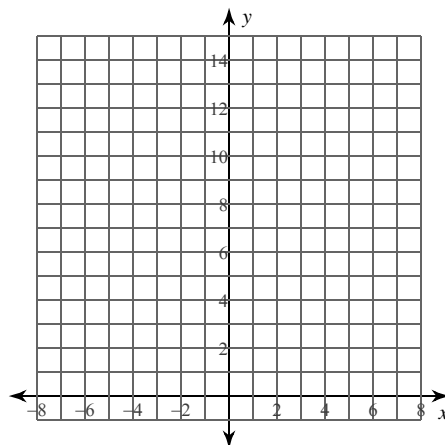
4) $y = -x + 3; [-5, -3]$



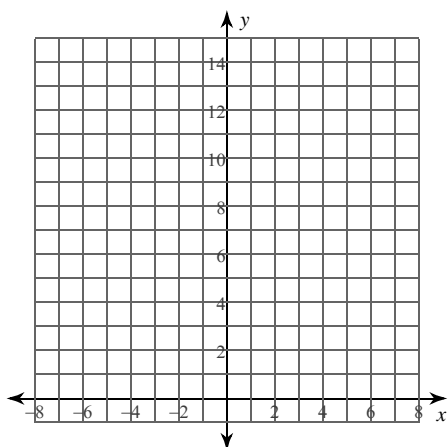
5) $y = -\frac{x^2}{2} + 6; [-1, 1]$



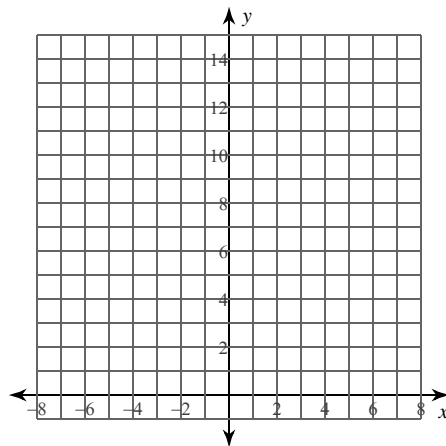
6) $y = -x^2 - 2x + 11; [-1, 1]$



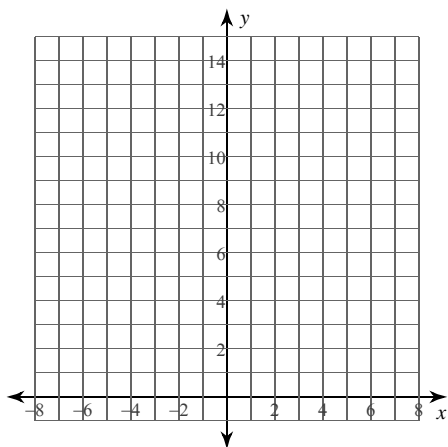
7) $y = x^2 - 2x + 2$; $[2, 4]$



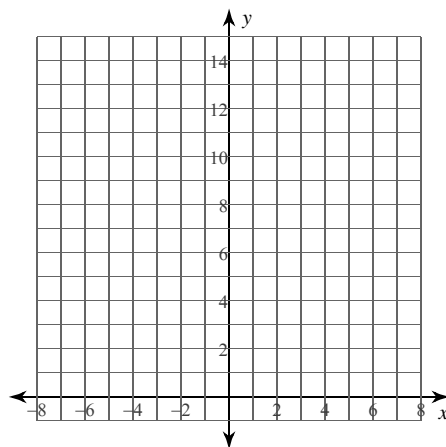
8) $y = -\frac{x^2}{2} - x + 5$; $[-3, -1]$



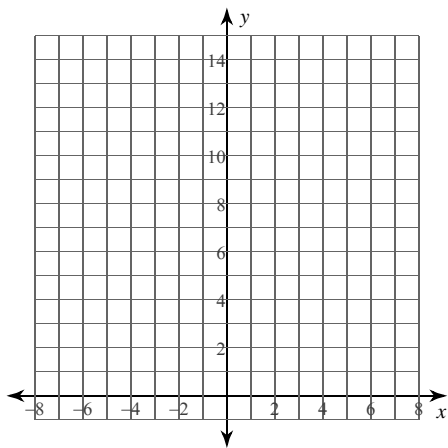
9) $y = \frac{4}{x}$; $[1, 3]$



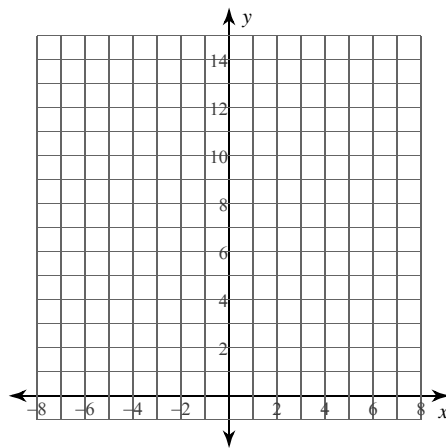
10) $y = -\frac{2}{x}$; $[-6, -2]$



11) $y = \frac{1}{x}$; $[1, 3]$



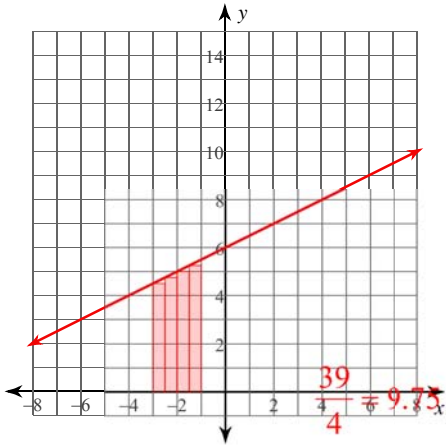
12) $y = -\frac{4}{x}$; $[-3, -1]$



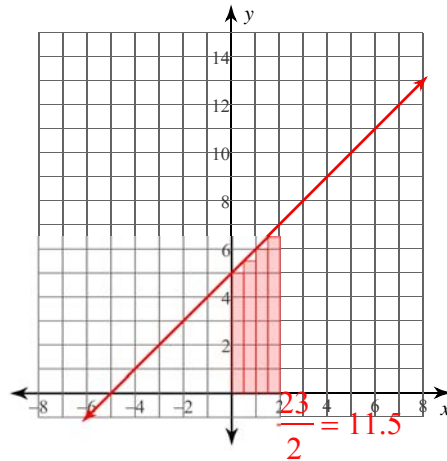
Calculus Practice: Riemann Sums 1b

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.

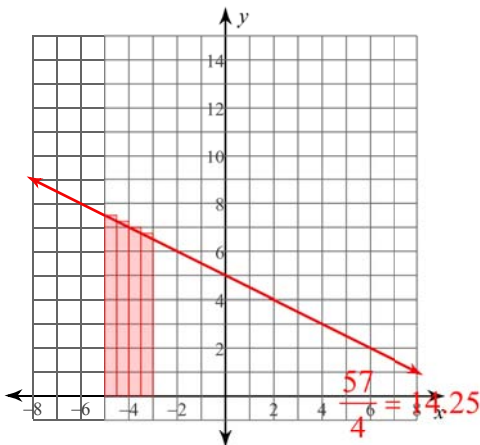
1) $y = \frac{x}{2} + 6$; $[-3, -1]$



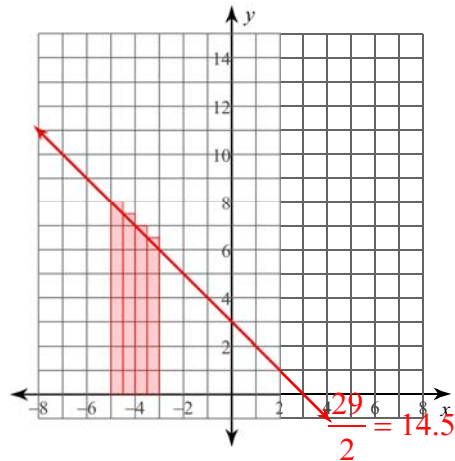
2) $y = x + 5$; $[0, 2]$



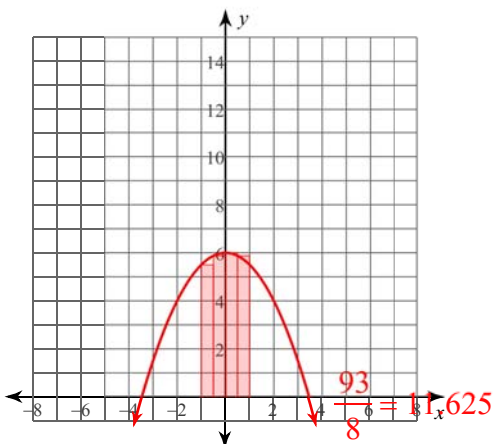
3) $y = -\frac{x}{2} + 5$; $[-5, -3]$



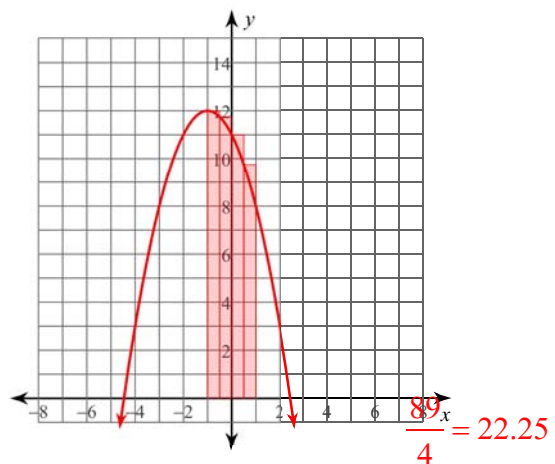
4) $y = -x + 3$; $[-5, -3]$



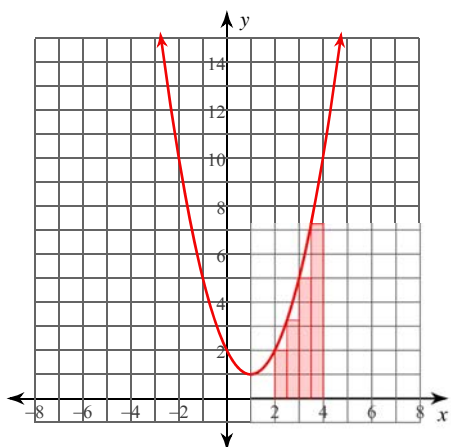
5) $y = -\frac{x^2}{2} + 6$; $[-1, 1]$



6) $y = -x^2 - 2x + 11$; $[-1, 1]$

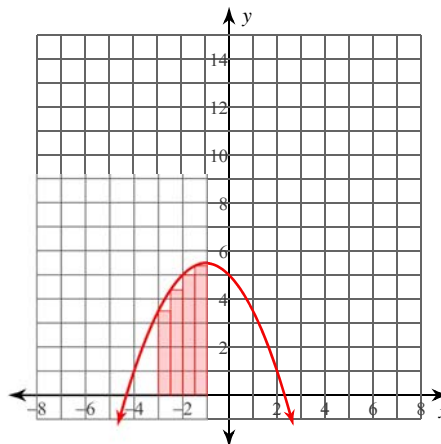


7) $y = x^2 - 2x + 2$; $[2, 4]$



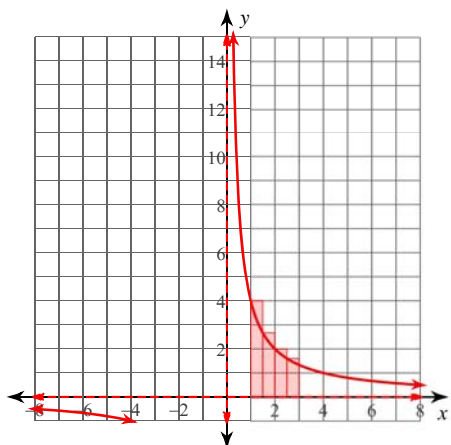
$$\frac{35}{4} = 8.75$$

8) $y = -\frac{x^2}{2} - x + 5$; $[-3, -1]$



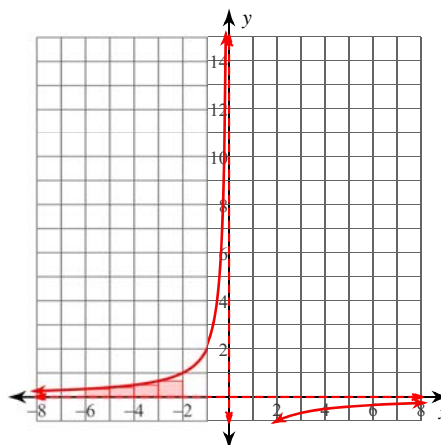
$$\frac{73}{8} = 9.125$$

9) $y = \frac{4}{x}$; $[1, 3]$



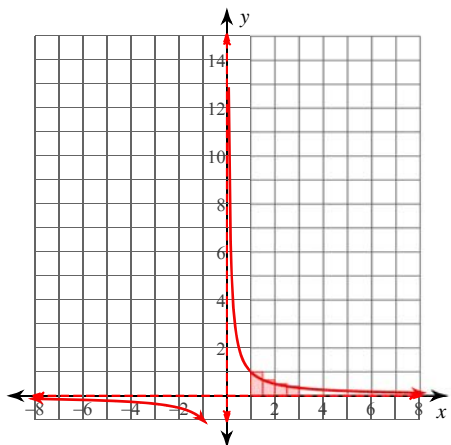
$$\frac{77}{15} \approx 5.133$$

10) $y = -\frac{2}{x}$; $[-6, -2]$



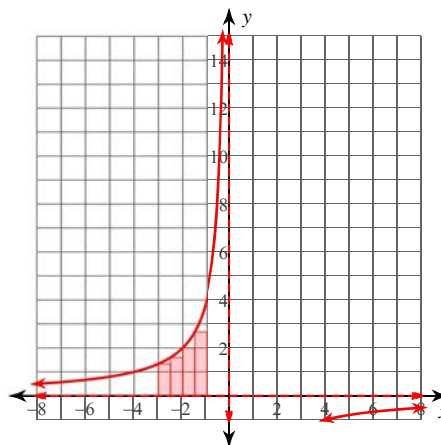
$$\frac{19}{10} = 1.9$$

11) $y = \frac{1}{x}$; $[1, 3]$



$$\frac{77}{60} \approx 1.283$$

12) $y = -\frac{4}{x}$; $[-3, -1]$



$$\frac{19}{5} = 3.8$$