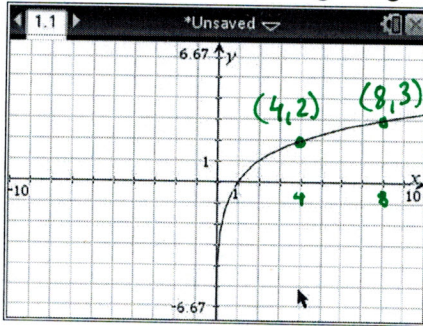


P5-6: Average Rate of Change
Honors Advanced Algebra

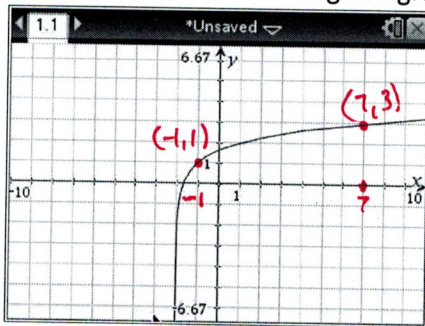
Name: _____

1. Calculate the average rate of change from $x = 4$ to $x = 8$ for the given graph:



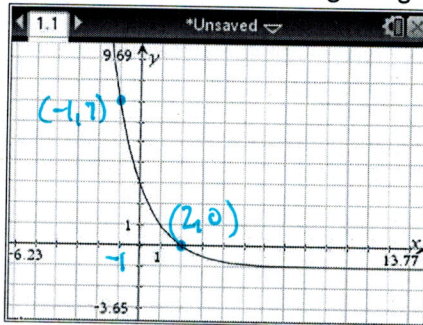
$$\text{Avg. rate of change} = \frac{3-2}{8-4} = \boxed{\frac{1}{4}}$$

2. Calculate the average rate of change from $x = -1$ to $x = 7$ for the given graph:



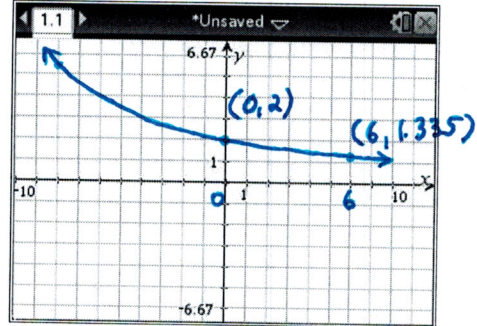
$$\text{Avg. rate of change} = \frac{3-1}{7-(-1)} = \frac{2}{8} = \boxed{\frac{1}{4}}$$

3. Calculate the average rate of change from $x = -1$ to $x = 2$ for the given graph:



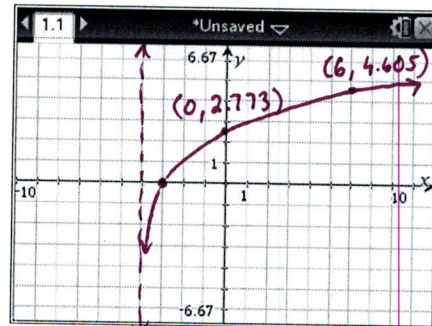
$$\text{Avg. rate of change} = \frac{0-7}{2-(-1)} = \boxed{-\frac{7}{3}}$$

4. Graph the function $y = \left(\frac{5}{6}\right)^x + 1$ and calculate the average rate of change from $x = 0$ to $x = 6$



$$\text{Avg. rate of change} = \frac{1.335-2}{6-0} = \boxed{-0.111}$$

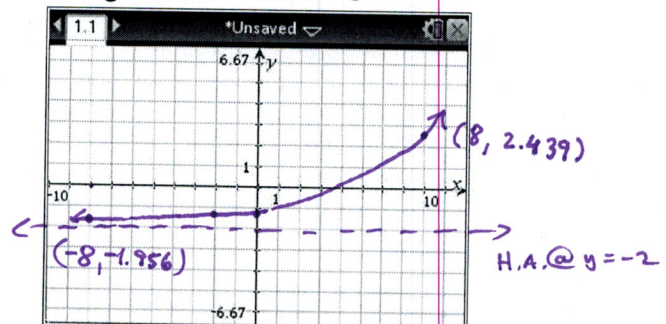
5. Graph the function $y = 2 \ln(x+4)$ and calculate the average rate of change from $x = 0$ to $x = 6$



V.A. @ $x=4$ $\frac{4.605-2.773}{6-0} = \frac{1.832}{6}$

$$\text{Avg rate of change} = \frac{4.605-2.773}{6-0} = \frac{1.832}{6} \approx 0.305$$

6. Graph the function $y = \frac{1}{3} \cdot \left(\frac{4}{3}\right)^{x+1} - 2$ and calculate the average rate of change from $x = -8$ to $x = 8$



$$\text{Avg rate of change} = \frac{2.439 - (-1.956)}{8 - (-8)}$$

$$= \frac{4.395}{16}$$

$$\approx \boxed{0.275}$$