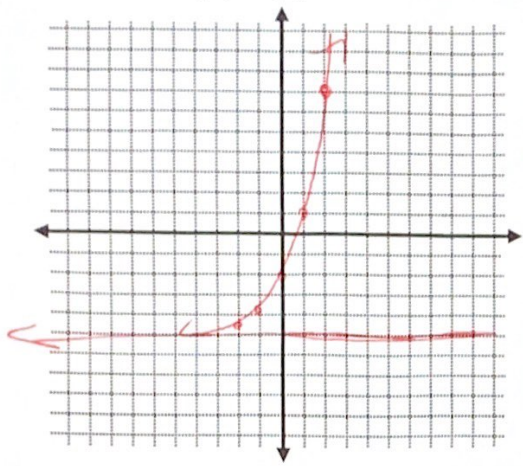


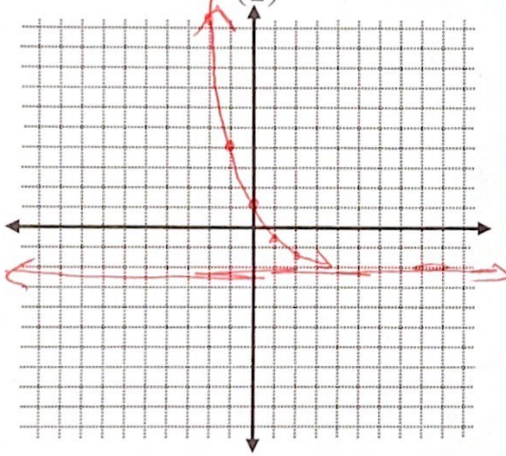
1. $f(x) = 3(2)^x - 5$



Domain: \mathbb{R} Range: $y > -5$
 X-intercept: $(1, 0)$ y-intercept: $(0, -2)$
 Interval of Increase: \mathbb{R} Interval of Decrease: N/A
 Maximum(s): N/A Minimum(s): N/A
 Asymptote: $y = -5$
 End-Behavior: as $x \rightarrow \infty, f(x) \rightarrow \infty$
 as $x \rightarrow -\infty, f(x) \rightarrow -5$
 Find the average rate of change from $x=0$ to $x=2$: 4.5

$$\begin{array}{r|l} x & y \\ 0 & -2 \\ 2 & 9 \end{array} \quad \frac{9}{2}$$

2. $f(x) = 3\left(\frac{1}{2}\right)^x - 2$



Domain: \mathbb{R} Range: $y > -2$
 X-intercept: $(1, 0)$ y-intercept: $(0, 1)$
 Interval of Increase: N/A Interval of Decrease: \mathbb{R}
 Maximum(s): N/A Minimum(s): N/A
 Asymptote: $y = -2$
 End-Behavior: as $x \rightarrow \infty, f(x) \rightarrow -2$
 as $x \rightarrow -\infty, f(x) \rightarrow \infty$
 Find the average rate of change from $x=-2$ to $x=1$: -6

$$\begin{array}{r|l} x & y \\ -2 & 10 \\ 1 & 4 \end{array} \quad \frac{-6}{1}$$

3. Find the average rate of change for the following functions on the given interval.

a. $f(x) = \frac{3}{4}(2)^x, 2 \leq x \leq 5$

$$\begin{array}{r|l} x & y \\ 2 & 3 \\ 5 & 24 \end{array} \quad 21$$

$$\frac{21}{3} = \boxed{7}$$

b. $f(x) = 2(5)^x, 1 \leq x \leq 3$

$$\begin{array}{r|l} x & y \\ 1 & 10 \\ 3 & 250 \end{array} \quad 240$$

$$\frac{240}{2} = 120$$