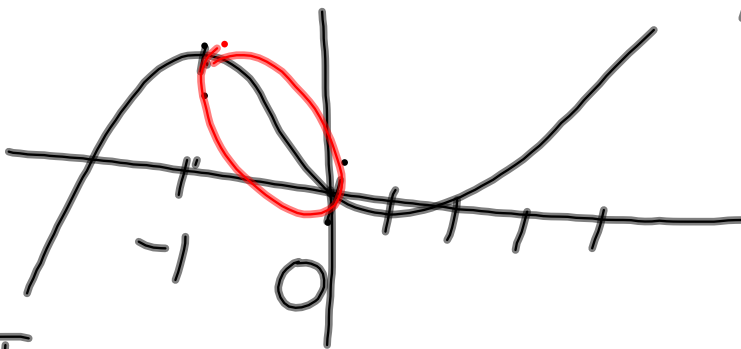


# Average Rate of Change

$$\text{Avg R.O.C.} = \text{Slope} = \frac{Y_2 - Y_1}{X_2 - X_1}$$



Interval = is the section of a graph from one  $X$  to another  $X$ .

$$\begin{matrix} [-1, 0] \\ X_1 \quad X_2 \end{matrix} \leftarrow \text{Interval} \quad \begin{matrix} (-1, 0) \\ X \quad Y \end{matrix} \leftarrow \text{Point}$$

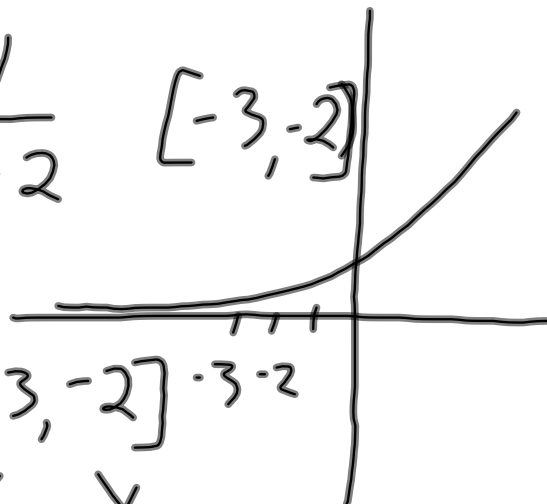
Example:

Find the

$$y = -\frac{1}{x-2} \quad [-3, -2]$$

Avg R.O.C.

for the Interval  $[-3, -2]$



$$y_1 = \frac{-1}{-3-2} = \frac{-1}{-5} = \frac{1}{5}$$

$$y_2 = \frac{-1}{-2-2} = \frac{-1}{-4} = \frac{1}{4}$$

$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{\frac{1}{4} - \frac{1}{5}}{-2 - (-3)} = \frac{\frac{5}{20} - \frac{4}{20}}{1} = \frac{1}{20}$$

$$\frac{1}{20} = 0.05$$

