

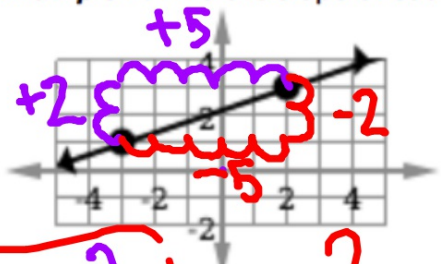
**How DO YOU FIND THE SLOPE OF A LINE?****Rate of change:****Example 1:** Determine if the rate of change is constant. If it is, find it.

Turtle Walking	
Time (min)	Distance (m)
1	6
2	12
3	15
4	21

Airplane Descent	
Time (min)	Elevation (ft)
0	30,000
2	29,000
5	27,500
12	24,000

Slope:  $\frac{\text{rise}}{\text{run}} = \frac{\text{change in } y}{\text{change in } x} = \frac{y_2 - y_1}{x_2 - x_1}$  for point  $(x_1, y_1)$  and  $(x_2, y_2)$

Example 2: Find the slope of each line. \* up/right = positive



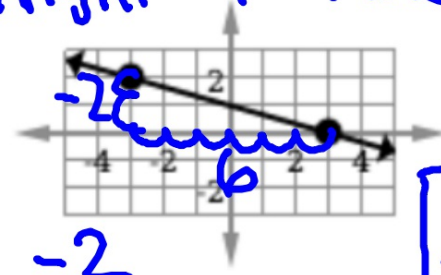
$$\frac{2}{5} = \frac{-2}{-5}$$

Through  $(1, 3)$  and  $(4, -1)$   
 $x_1, y_1, x_2, y_2$

$$\frac{-1 - 3}{4 - 1} = \frac{-4}{3}$$

Through  $(-1, -3)$  and  $(5, -3)$

$$\frac{-3 - -3}{5 - -1} = \frac{0}{6} = 0$$



$$\frac{7}{10} = \frac{-2}{6} = -\frac{1}{3}$$

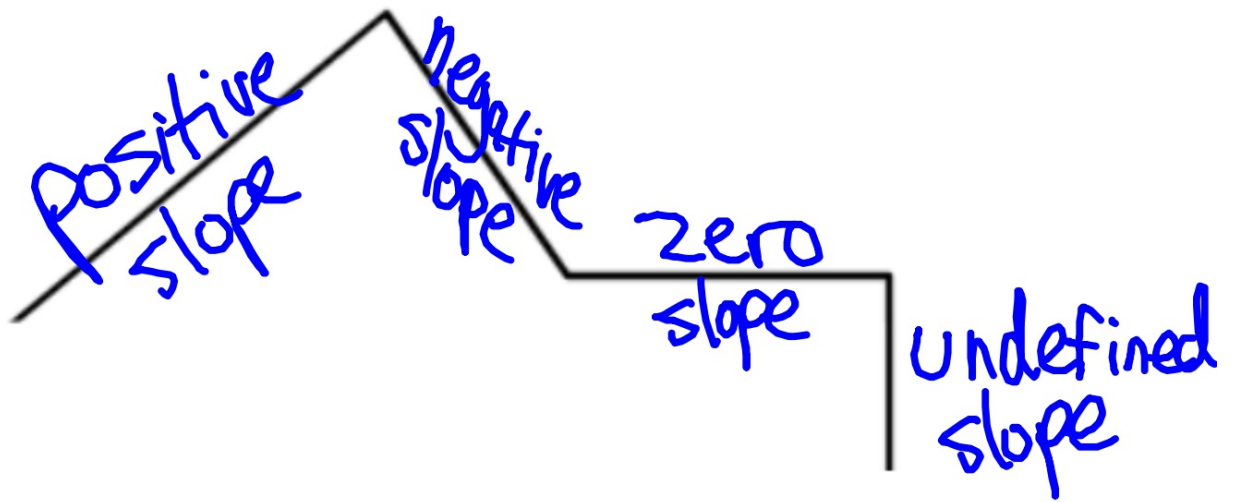
Through  $(-6, 1)$  and  $(4, 8)$

$$\frac{8 - 1}{4 - -6} = \frac{7}{10}$$

Through  $(4, -3)$  and  $(4, 2)$

$$\frac{2 - -3}{4 - 4} = \frac{0}{0}$$

Undefined



Summary: