

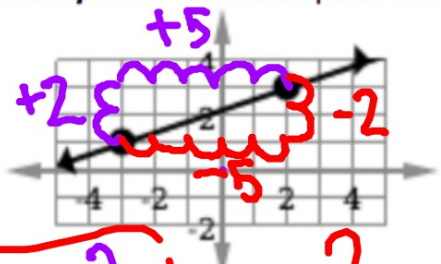
How DO YOU FIND THE SLOPE OF A LINE?**Rate of change:****Example 1:** Determine if the rate of change is constant. If it is, find it.

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



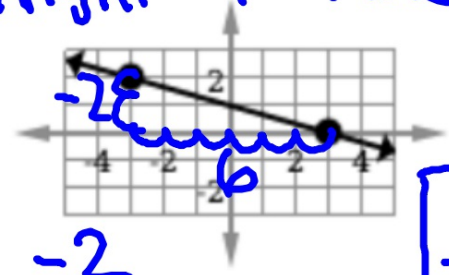
$$\frac{2}{5} = \frac{-2}{-5}$$

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)

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



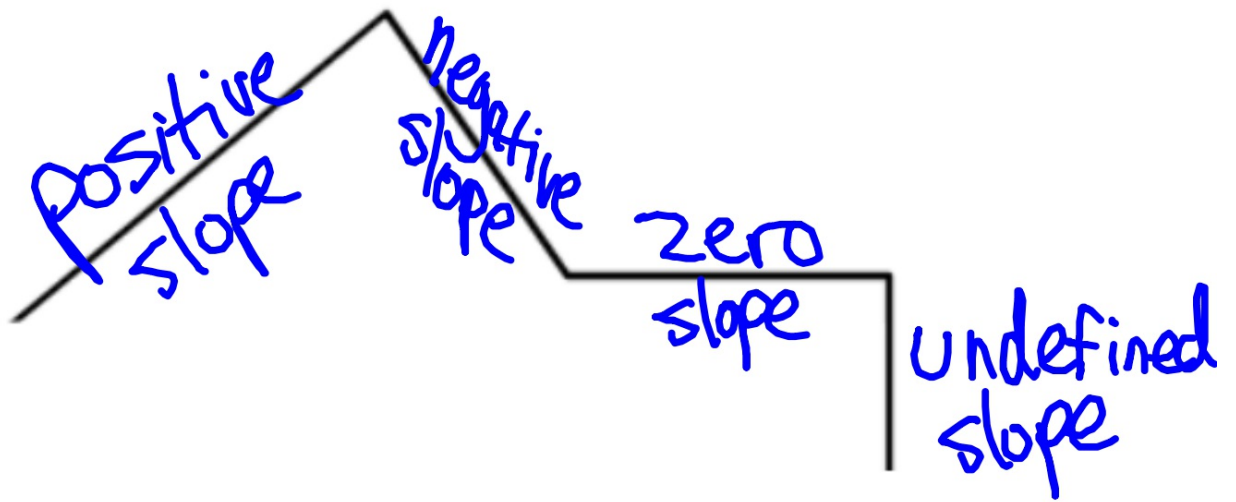
$$\frac{7}{10}$$

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

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

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

$$\frac{2-(-3)}{4-4} = \frac{0}{0} = \text{Undefined}$$



Summary: