

Unit 5: Linear Equations & Graphs

5.0 Slope

Slope:

The ratio of the vertical change (rise) to the horizontal change (run) of a line or line segment.

$$\text{slope} = \frac{\text{vertical change}}{\text{horizontal change}} \quad \text{or} \quad m = \quad \text{or} \quad m =$$

A positive change in both the vertical and horizontal values leads to a

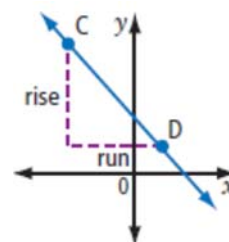
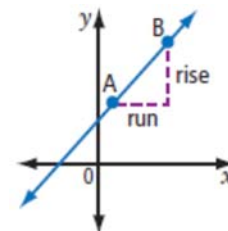
_____ slope.

A negative change in both the vertical and horizontal values leads to a

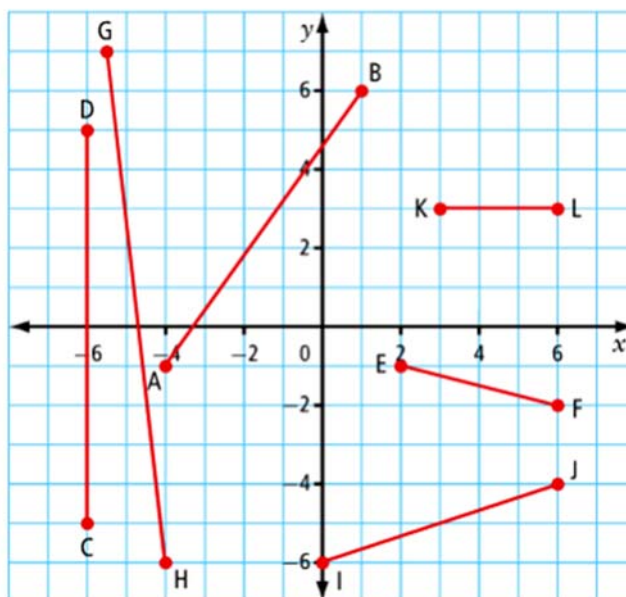
_____ slope.

A negative change in one and a positive change in the other leads to a

_____ slope.



Ex. Classify the slope of each line segment as positive, negative or neither. Then, calculate each slope.



Slope formula:

Ex. What is the slope, m , of each line segment with the given endpoints?

a) S(-3, 6) and T(5, 2)

b) H(4, 3) and K(4, 8)

c) M(-9, -7) and N(-1, -7)

Ex. The point (-3,2) is on a line that has a slope of $\frac{-3}{4}$. List three other points on the line.

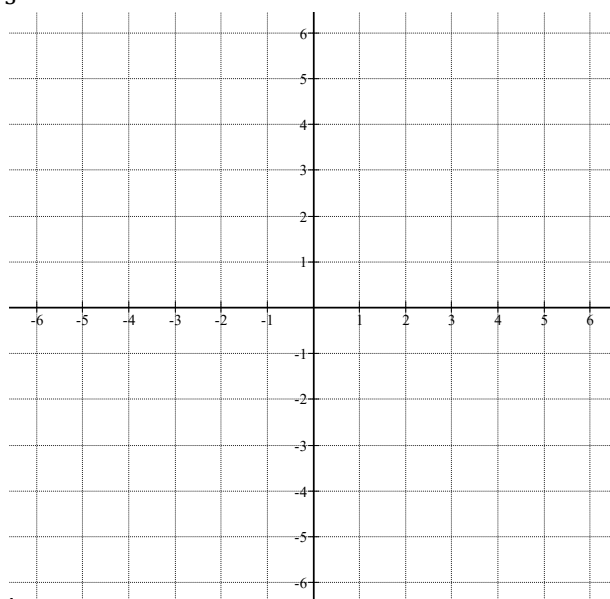
Ex. The point (-6,1) is on a line that has a slope of $\frac{1}{3}$. List three other points on the line.

Ex. Graph the line with given point and slope:

a) $(-3, 2), m = -\frac{1}{3}$

b) $(0, -4), m = 2$

c) $(5, 0), m = \text{undefined}$



Practice: WS (152/153) – on sheet
pg. 325/ # 1, 4 – 6, 12, 16