

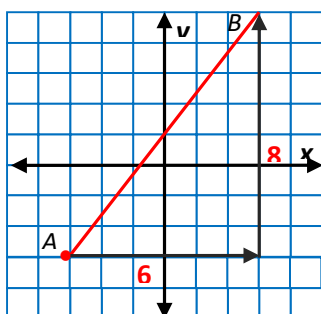
Coordinate Plane

Properties of the coordinate plane can be used to find information about figures in the plane, such as whether lines in the plane are parallel.

Slope is a number that describes how steep a line is.

$$\text{slope} = \frac{\text{vertical change}}{\text{horizontal change}} = \frac{\text{rise}}{\text{run}}$$

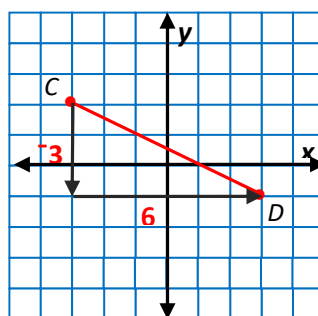
Positive slope



$$\text{slope of AB} = \frac{8}{6} = \frac{4}{3}$$

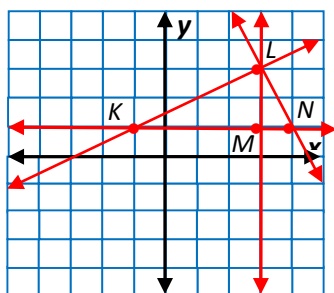
$$\text{slope of CD} = \frac{-3}{6} = \frac{-1}{2}$$

Negative slope



The slope of a horizontal line is 0. The slope of a vertical line is undefined.

Example 1: Determine if the slope of each line is positive, negative, 0, or undefined. Then find the slope of each line.



a) KL

Positive slope; slope of KL = $\frac{2}{4} = \frac{1}{2}$

b) LM

Slope of LM is undefined.

c) LN

Negative slope; slope LN = $\frac{-2}{1} = -2$

d) KM

Slope of KM = 0