The general equation of a line is:

$$y = mx + b$$

(x , y)
a point on
the line

y-intercept
(where the line
crosses the y-axis)

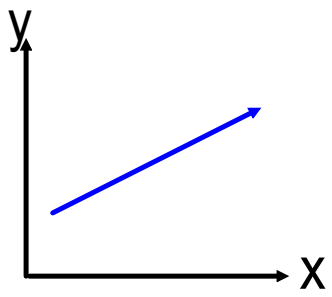
slope

$$m = \frac{rise}{run}$$

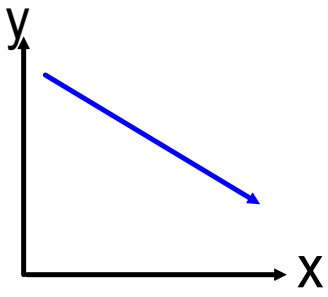
(from a graph)

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

(given two points)



positive slope



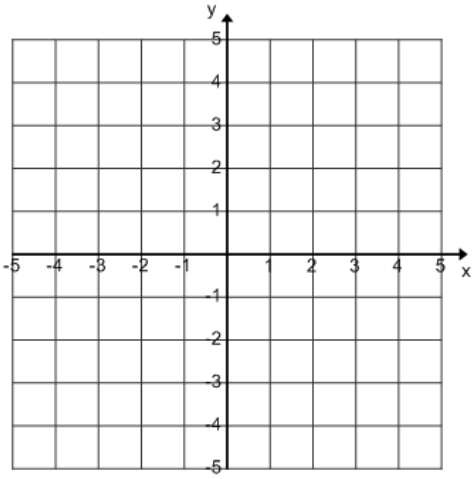
negative slope

Ex. 1 Graph the following equations on the grid provided

a) Graphing using a table of values.

$3x - y = 2$

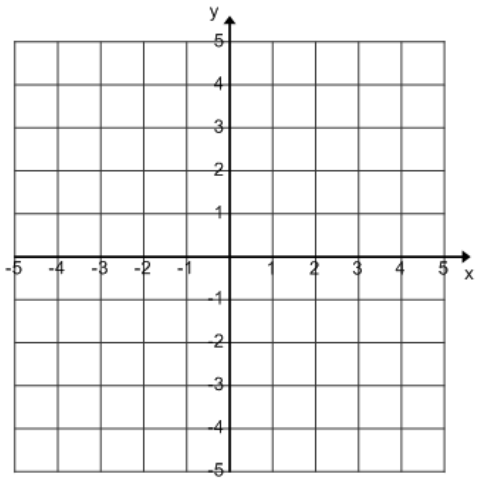
x	y



b) Graphing using y=mx + b

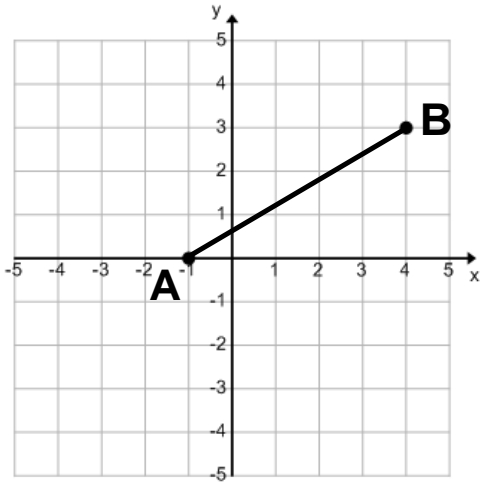
y = -2x + 4

m= b=



Ex. 2 Calculate the slope of a line passing through (7 , -2) and (1 , 4)

Ex. 3 Determine the slope of line segment AB.



Ex. 4 Rearrange 2x + 5y - 15 = 0 so that it is in y = mx + b form.

Ex. 5 Find the equation of a line that has:

a) slope of $-\frac{2}{9}$ and crosses the y-axis in the origin.

b) passes through (-3, 2) and has a slope of $\frac{1}{3}$.

c) passes through (5, 3) and (7, 9).