THE EQUATION OF A LINE

Graph these two lines – use a table of values, then plot the points:

a) $y = 2x + 3$

b) $y = -3x -2$

x	y	(x,y)

x	y	(x,y)
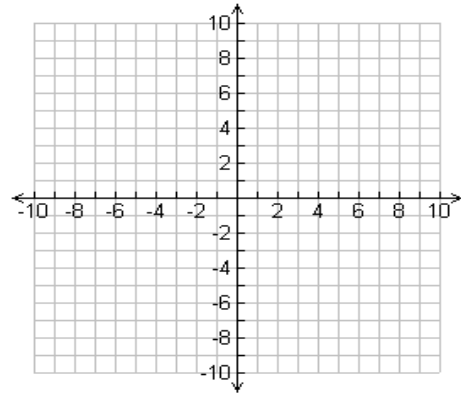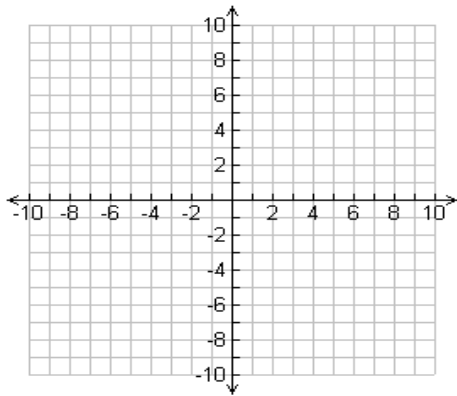
What is the SLOPE of each line?

Where does each line cross the y-axis?

INTRODUCING…ONE WAY TO WRITE THE EQUATION OF A LINE:

$$y = mx + b$$

slope

y-intercept

SLOPE Y-INTERCEPT FORM

Slope y-intercept form of a linear equation is written in the form of _____,
where m is the _____ and b is the _____.

Example: Give the slope and y-intercept of each.
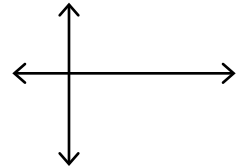
a) $y = 8x - 9$ Slope = _____   y-intercept = _____

b) $y = -\dfrac{3}{4}x + 2$ Slope = _____   y-intercept = _____
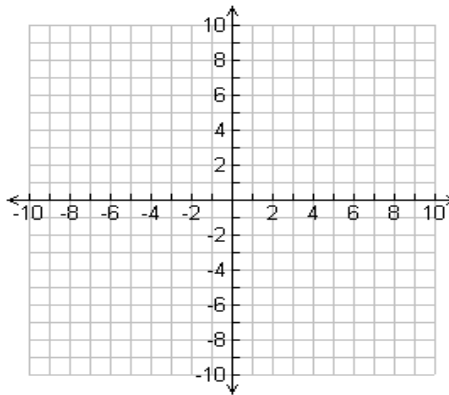
The advantage of slope y-intercept form: _____.

So…We can use the y = mx + b form to graph a line…

- **First** plot the _____

- **Then** use m = _____ to plot the _____

Example:
Graph y = 4x -5

Graph y = -3x + 3