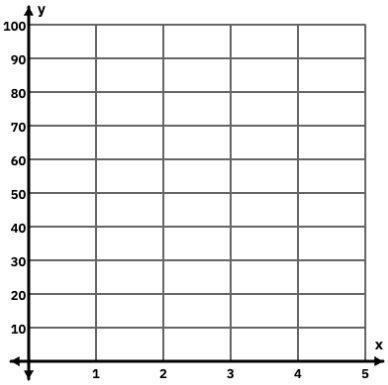
NOTES UNIT 1B Graphing Linear Equations Name: _____HR:_____
Lesson 3

Target Skills: Be able to graph the described line on an coordinate axis.

In geometry, how many points does it take to define a line?

Example: You have $30 in your savings account. You have a job that pays you $20 per hour. How many hours will you have to work to buy a $100 concert ticket?

What is the slope in this word problem? (Which value is a rate of change?



Initial Amount:

Rate of Change:

Equation:

Function Notation:

Y-intercept: Slope:

Linear Equations (Equations that when graphed make straight lines), have 3 main forms.

The 3 Forms a Linear Equation can be written in.

Slope-Intercept form:	Standard Form:	Point-Slope Form:
$y = mx + b$ Or $f(x) = mx + b$ 😎 GREAT for GRAPHING 😎 GREAT for finding (x, y) points	Ax + By = C 😎 OK for GRAPHING IF C is divisible by both A and B 😎 GREAT for solving SYSTEMS of EQUATIONS 😎 2 easy steps to CHANGE into Slope-Intercept FORM (and then graph)	$y - y_1 = m(x - x_1)$ 😎 GREAT for finding the equation of a line. 😎 OK for GRAPHING 😎 2 steps to TURN into SLOPE-INTERCEPT form (and then graph)

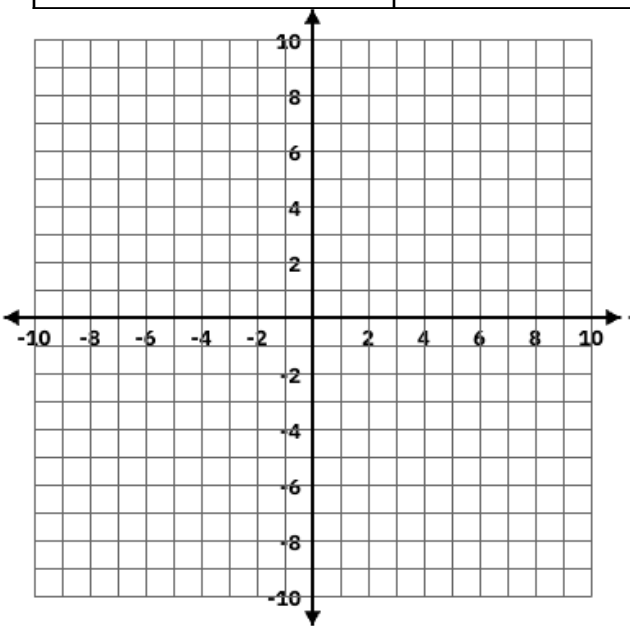
Graphing with SLOPE-INTERCEPT FORM: $y = mx + b$

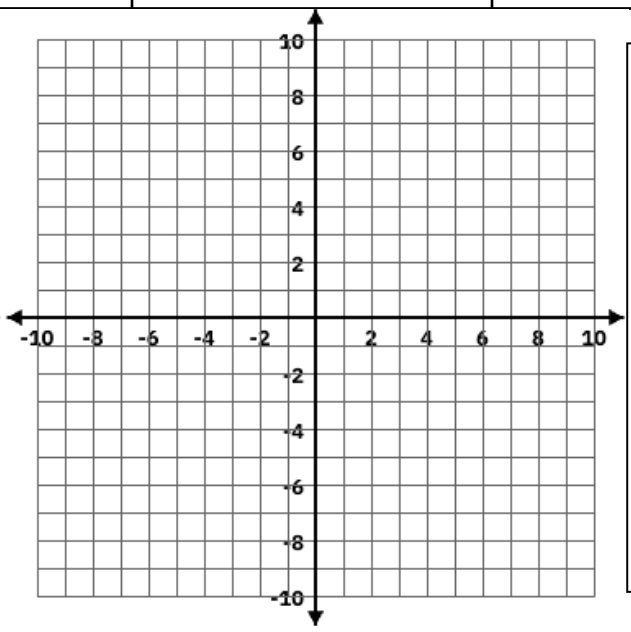
Directions: Write the slope and the y-intercept for each of the following:

$y = \frac{1}{2}x + 6$	$f(x) = -\frac{5}{3}x - 10$	$f(x) = \frac{1}{2} - 7x$	$3y - 6x = -12$

Graphing Linear Equations Name: _____HR:_____

$y = \frac{1}{2}x + 6$	$f(x) = -\frac{5}{3}x - 10$	$f(x) = -7x - \frac{1}{2}$	$y = 2x - 4$





Negative Slope Help

$$m = -\frac{3}{2}$$

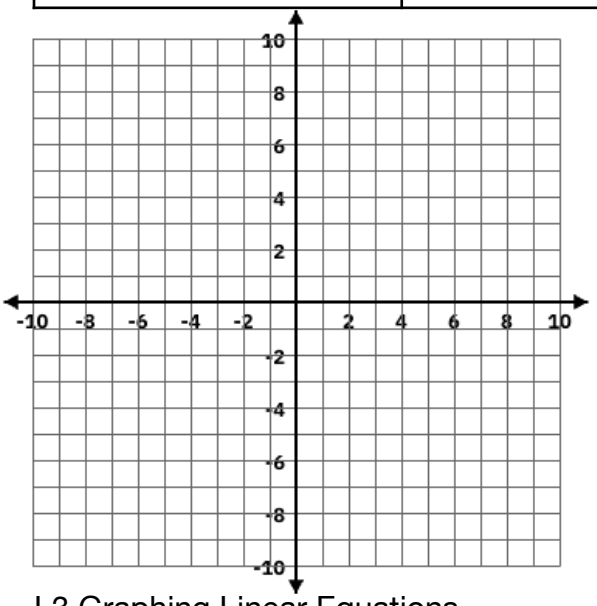
Is the same as

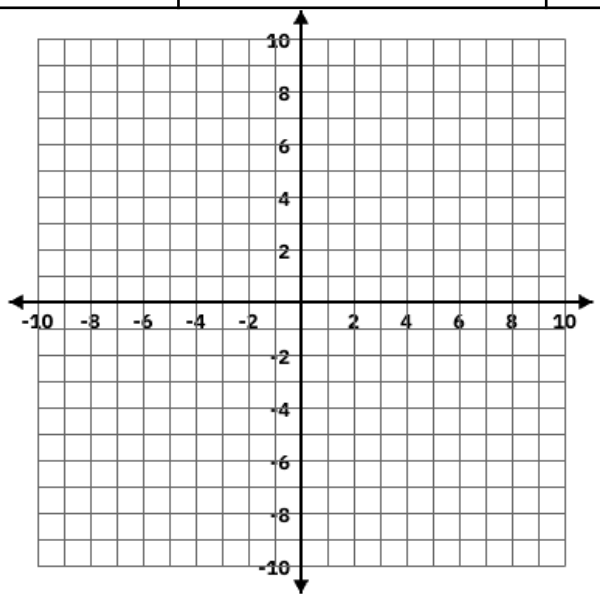
$$m = \frac{-3}{2}$$

Count Down 3 & right 2

Graphing with STANDARD FORM: $Ax + By = C$ **(A, B, and C are integers,** $\mathbf{A > 0}$

Finding x and y intercepts	Finding x and y intercepts	Changing to slope-intercept form	Changing to slope-intercept form
$4x - 2y = 12$	$6x - 12y = 24$	$3x - 2y = 8$	$5x - 2y = -12$





Special Lines

Horizontal Lines:

$$y = 9$$

Vertical Lines:

$$x = 9$$