GRADE 10
LINEAR MODELS
WORKSHEET 1
PLOTTING LINES – SLOPE INTERCEPT AND GENERAL FORMS

Name: _____
Date: _____

1. What is the slope and y-intercept of the following equations?

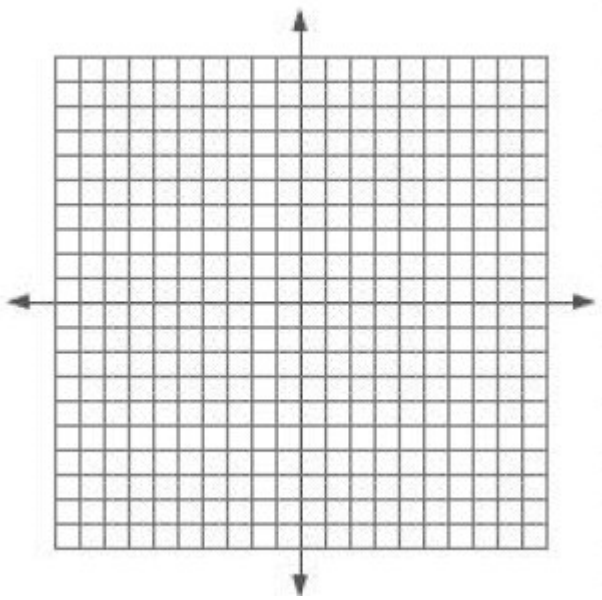
$y = 3x + 2$ Slope (m) = _____ Y-Intercept (b) = _____	$y = 2x - 5$ Slope (m) = _____ Y-Intercept (b) = _____	$y = -3x + 2$ Slope (m) = _____ Y-Intercept (b) = _____
$y = -x + 2$ Slope (m) = _____ Y-Intercept (b) = _____	$y = \frac{3}{5}x + 2$ Slope (m) = _____ Y-Intercept (b) = _____	$y = -\frac{5x}{8} - 4$ Slope (m) = _____ Y-Intercept (b) = _____

2. Plot the lines given the slope and intercept form, **y = mx + b**.

a. $y = 3x + 2$

$$slope = m = \frac{rise}{run} = \frac{3}{1}$$

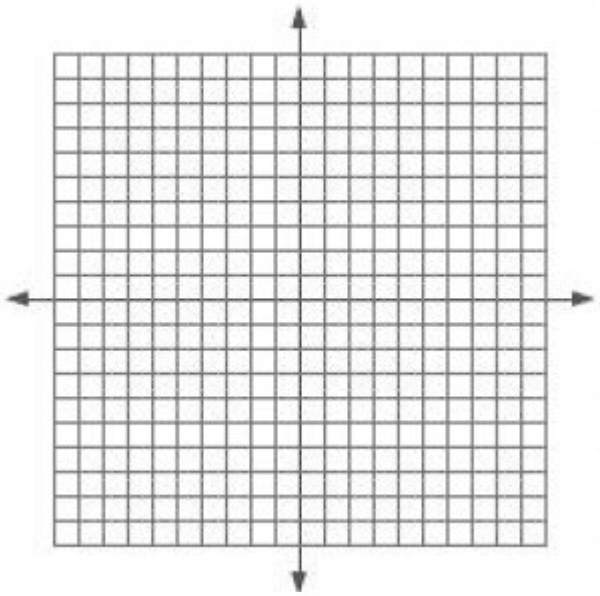
for every 1 you run right, you rise 3



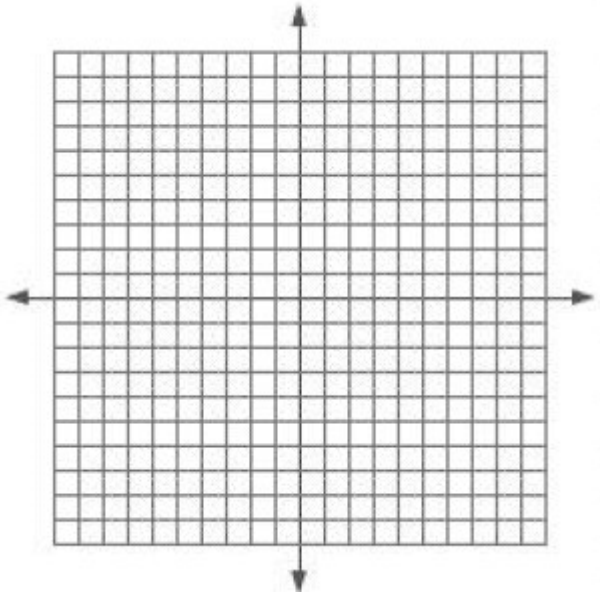
b. $y = -3x + 5$

$$slope = m = \frac{rise}{run} = \frac{-3}{1}$$

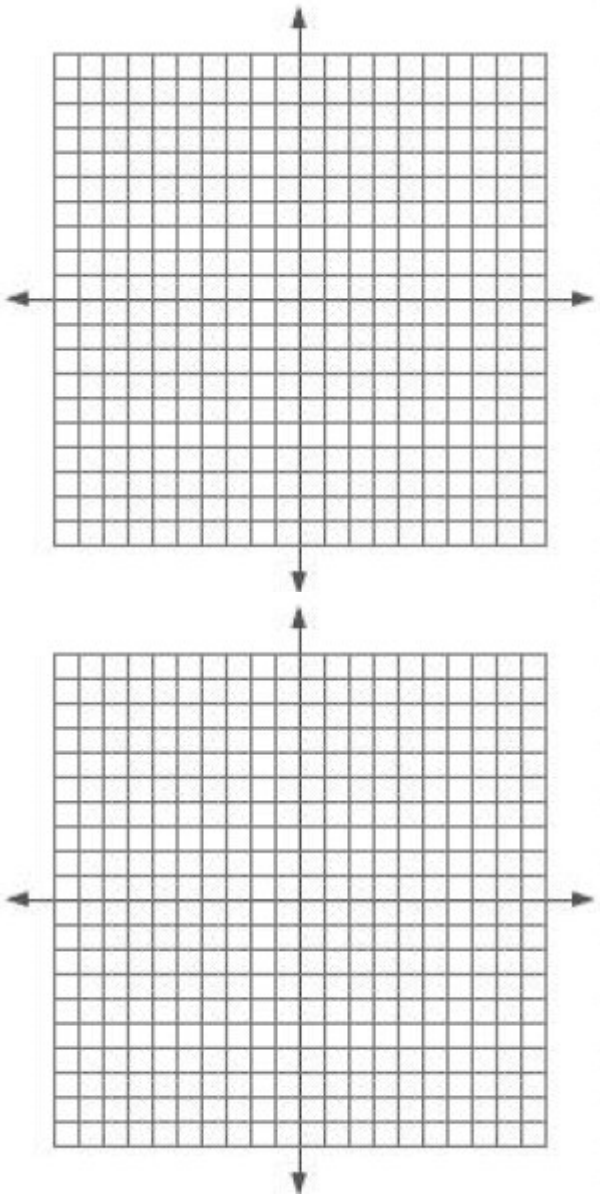
for every 1 you run right, you drop 3



c. $y = \frac{3}{8}x + 4$



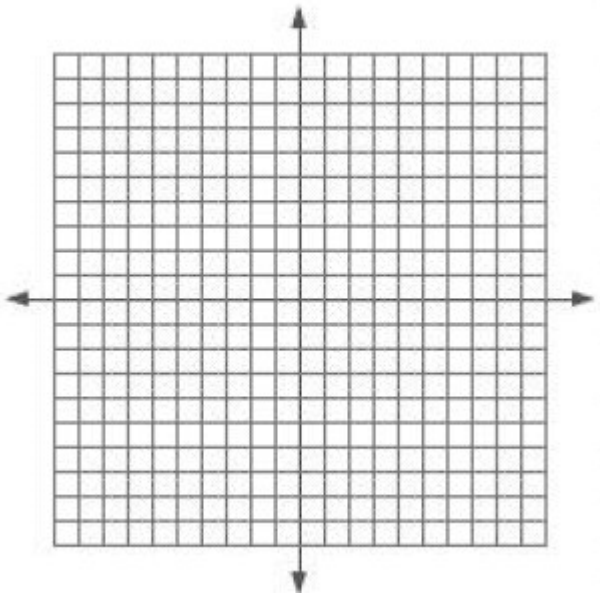
d. $y = -\frac{3}{5}x + 7$



e. $y = 0.25x - 3$

Hint: Slopes are a lot easier as fractions!

f. $y = -2.6x - 7$



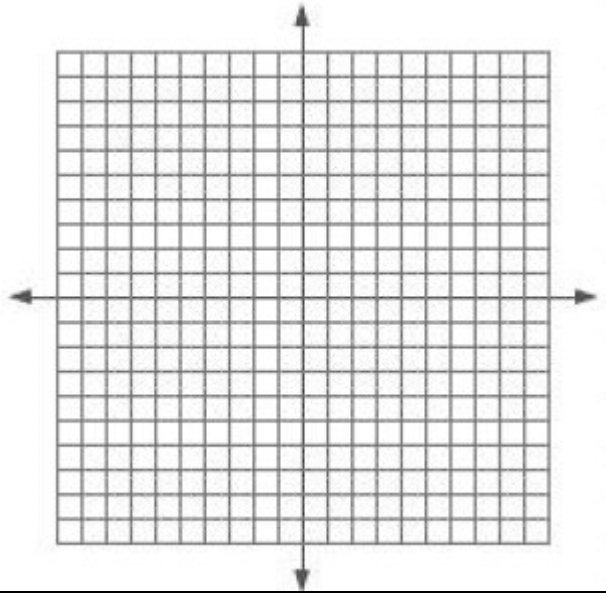
Hint : 2.6 is $\frac{26}{10}$ *or* $\frac{13}{5}$

3. Plot the lines given the GENERAL form (some books call it the standard form!)

a. $3x - 2y = 6$

x	y
0	
	0

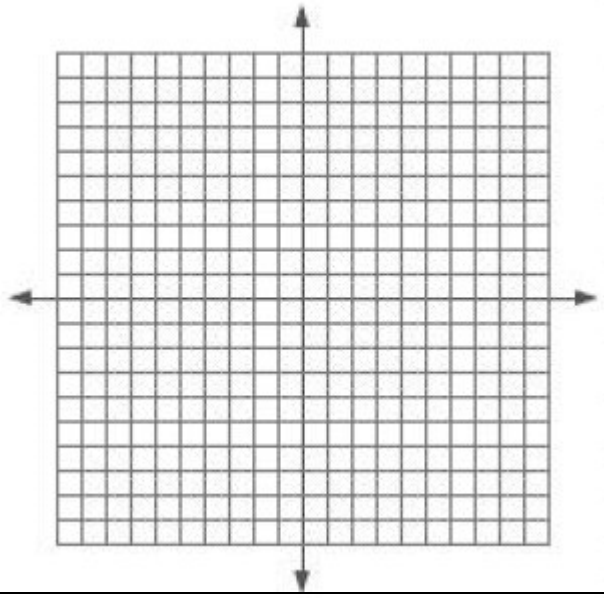
When x = 0 , y= _____
When y = 0, x = _____



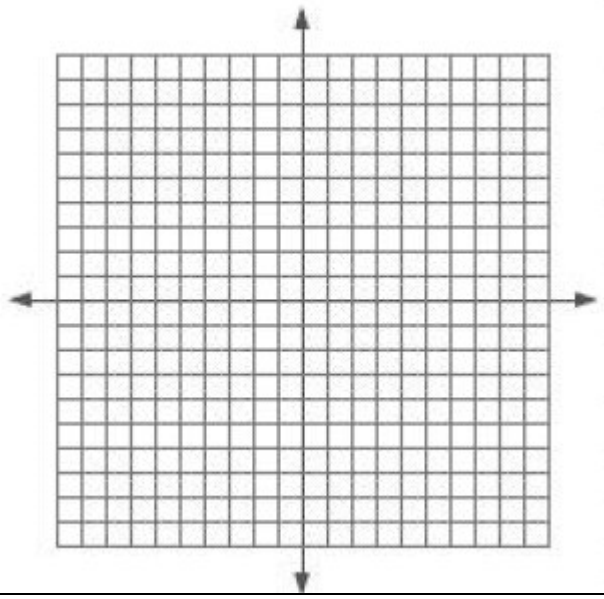
b. $20x + 10y = 100$

x	y
0	
	0

When x = 0 , y = _____
When y = 0, x = _____



c. $3x + 5y = 75$

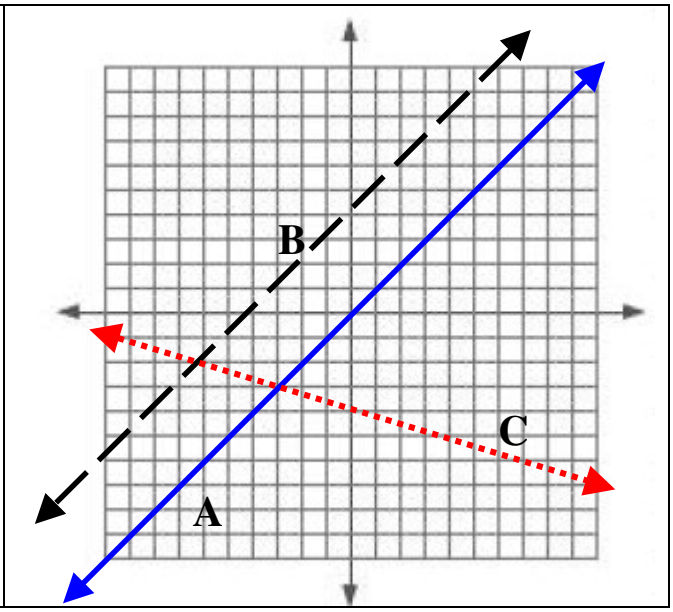


4. What is the equation of each of the labeled lines?

A. _____

B. _____

C. _____



Formulas

Slope = m $= \frac{Rise}{Run} = \frac{(y_2 - y_1)}{(x_2 - x_1)}$

Slope-Intercept form of a line: $y = mx + b$ where **m** is slope and **b** is the y-intercept

General Form of a line: $\mathbf{Ax + By = C}$ where **A, B, C** are real numbers