Name: _____   Date: _____

| Learning Goal 6.2	Constructing and using the following forms of a linear equation: • Slope – Intercept Form $y = mx + b$, • Slope – Point Form $y - y_1 = m(x - x_1)$, and • General Form $Ax + By + C = 0$.

Let's consider the following 3 lines:

Equation	$y = \dfrac{3}{2}x - 15$	$y = -\dfrac{2}{3}x - 2$	$y = \dfrac{3}{2}x + 12$
Slope			
y-intercept			
x-intercept			

What do you notice?

The Equation of a Line (in Slope-Intercept form):

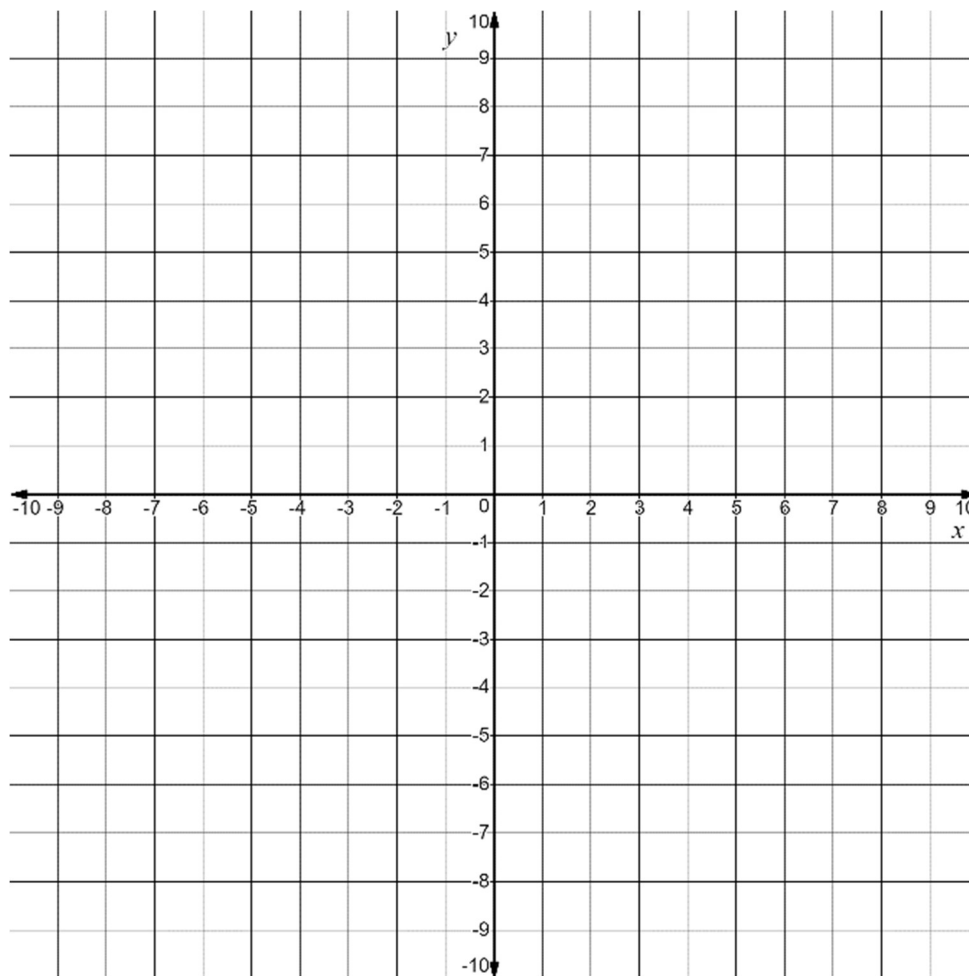**Example** Write the equation of each line in slope-intercept form.
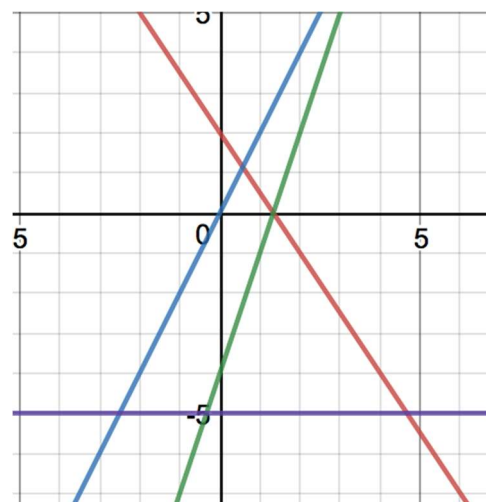
Example Graph each of the following lines without using a table of values.

a.

$$y = \frac{2}{3}x + 1$$

b.

$$y = -3x - 4$$

Example Which of the following points are on the line represented by the equation $y = 2x + 3$? How do you know?

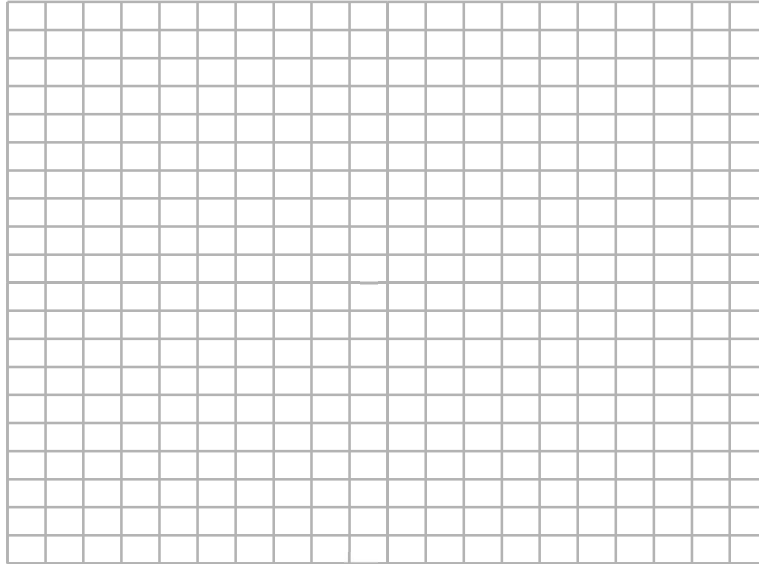(10, 23)   (1.5, 5)   (5, 12)   (200, 403)

Example Student Council decides to hold a dinner-dance. The cost to decorate the gym, rent the dishes and sound equipment and to print the posters advertising the event is $475. Dinner costs $20 per person.

a. Graph the cost of the event against the number of people who attend. The gym can hold a maximum of 400 people.

b. Write an equation to represent the cost of hosting the dance. Let C represent the total cost and n the number of students who attend.

c. What does the slope represent? What does the y-intercept represent??