

Name: \_\_\_\_\_

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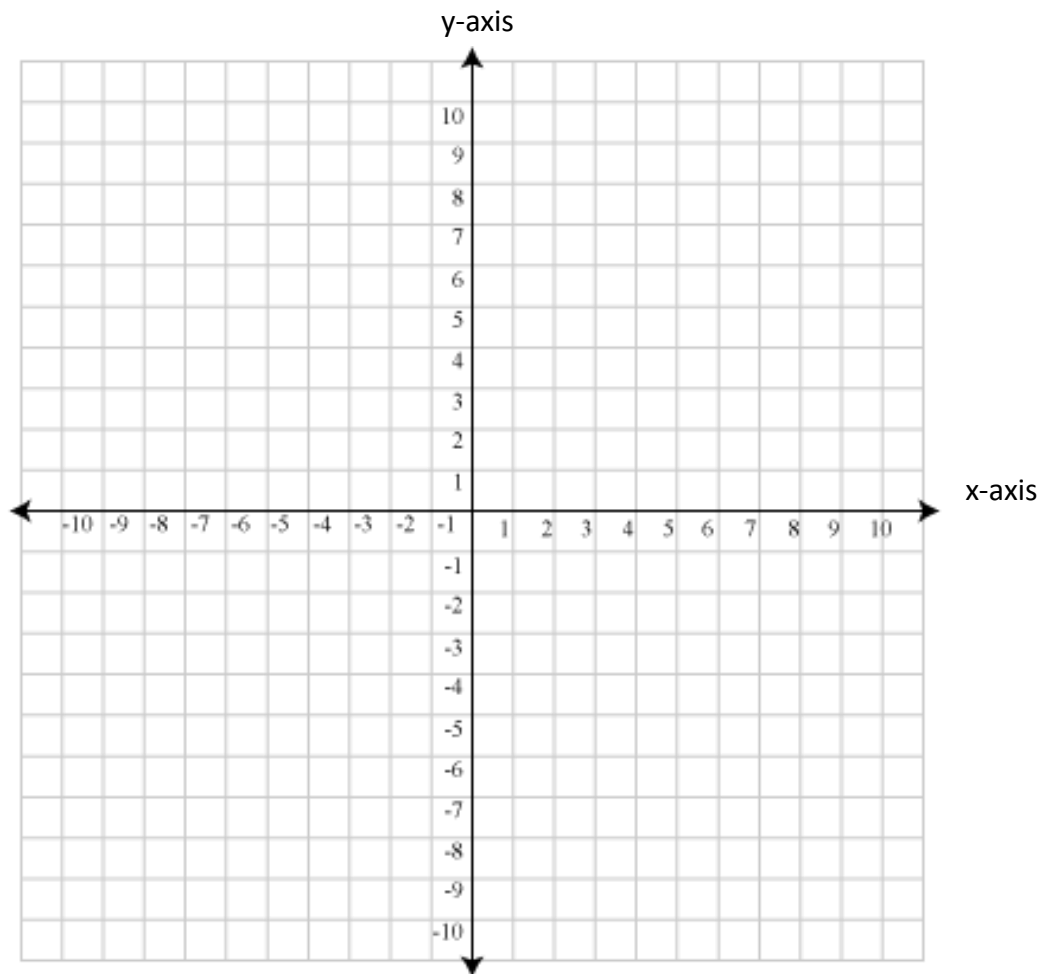
## Writing Linear Equations – Two Points

When a line passes through two points  $(x_1, y_1)$  and  $(x_2, y_2)$ , the slope of the line is:

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

1. What is the slope-intercept form of a line?
  - a. In slope-intercept form, what does the variable ***m*** stand for?
  - b. In slope-intercept form, what does the variable ***b*** stand for?
2. Write the slope-intercept form of the equation of the line that goes through points  $(-2, -1)$  and  $(1, 8)$ .
  - a. Find the slope (use the equation!):
  - b. Find the y-intercept:
  - c. Write the equation:
3. In the coordinate plane below:

- a. plot the points  $(-2, -1)$  and  $(1, 8)$
  - b. draw a line through the points (use a ruler to make sure that your line is straight)
  - c. calculate the slope of the line
  - d. determine the y-intercept of the line
  - e. write the equation of the line in slope-intercept form
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- f. compare your answer to question 2 – did you get the same equation?



4. Write the slope-intercept form of the equation of the line that goes through points  $(-4, -1)$  and  $(2, 2)$ .

a. Find the slope:

b. Find the y-intercept:

c. Write the equation:

5. Write the slope-intercept form of the equation of the line that goes through points  $(2, -3)$  and  $(-3, 7)$ .

a. Find the slope:

b. Find the y-intercept:

c. Write the equation:

6. Write the slope-intercept form of the equation of the line that passes through the given points:

a.  $(0, -5)$  and  $(3, 4)$

b.  $(2, 4)$  and  $(1, -2)$

c.  $(2, -2)$  and  $(-4, 1)$

d.  $(2, 3)$  and  $(-8, 0)$

e.  $(1, 6)$  and  $(5, 6)$

