Day 6: Write Equations in Slope-Intercept Form

Example 1: Write an equation given the _slope_ and _y-intercept:_

a. slope = 4, y-intercept = 6
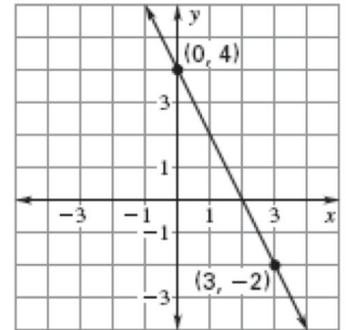
You try:

1. Slope is 8; y-intercept is -5.   **2.** Slope is $\frac{2}{3}$; y-intercept is -2.   **3**. Slope is -3; y-intercept is 7.
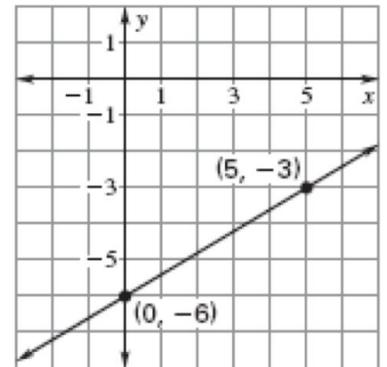
Example 2: Write an equation of a _graph._

a.   Write an equation of the graph: →

You try:

5. Write an equation of the graph: →

 Example 3: Write an equation given _slope and 1 point_ on the line

a. Write an equation of the line that passes through the point (1, 2) and has a slope of 3.

You try:

6. Write an equation of the line that passes through the point (2, 2) and has a slope of 4.

Example 4: Write an equation given _2 points_ on the line

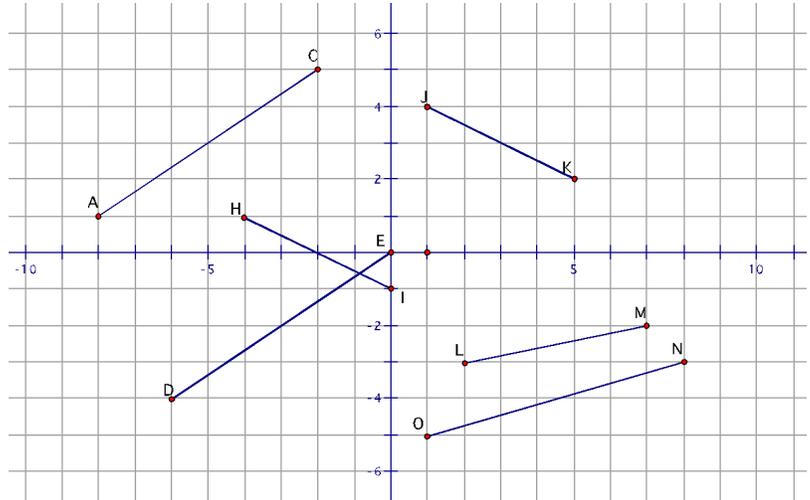**a.** Write an equation of the line that passes through (2 -3) and (-2, 1).

You try:

7. Write an equation of the line that passes through the points (-8, -13) and (4, 2).

8. Write an equation of the line that passes the points (-2, 15) and (1, 9).

Investigate Parallel and Perpendicular Lines

1. Which line segments to the right *appear* to be **parallel**?

2. Find the slope of $\overline{AC}$, $\overline{DE}$, $\overline{HI}$, $.\overline{JK}$.
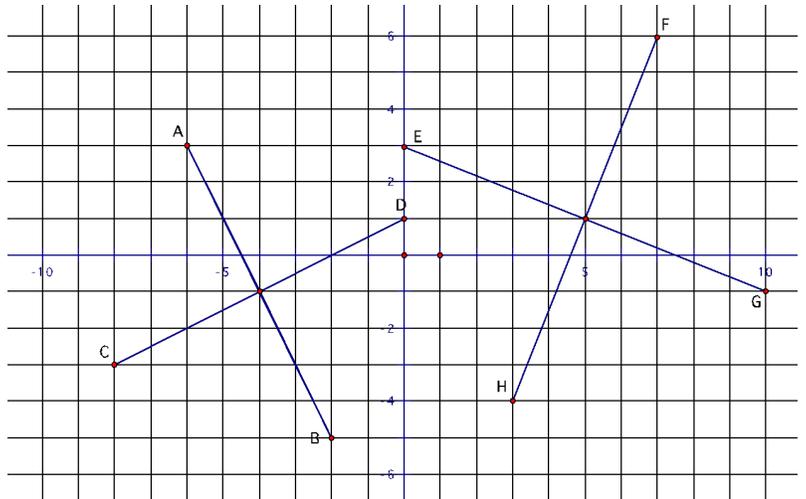
$\overline{AC} =$ _____

$\overline{DE} =$ _____

$\overline{HI} =$ _____

$.\overline{JK} =$ _____

3. How do the slopes of the parallel lines compare?

4. Which line segments to the right appear to be **perpendicular**?

5. Find the slope of each line segment.

$\overline{AB} =$ _____

$\overline{CD} =$ _____

$\overline{EG} =$ _____

$\overline{FH} =$ _____

6. How do the slopes of perpendicular lines compare?

Parallel Lines Property

In a coordinate plane, parallel lines have _____.

Examples:

Perpendicular Lines Property

In a coordinate plane, perpendicular lines have _____

_____.

Examples:

Examples:

1. Write an equation of the line that contains the point (-3, -5) and is **parallel** to the line y = 3x – 1.

2. Write an equation of the line that contains the point (4, -5) and is **perpendicular** to the line y = 2x + 3.

Now You Try:

3. Write an equation of the line that passes through (4, 3) and is perpendicular to the line y = 4x – 7.

4. Write an equation of the line that passes through (8, 2) and is parallel to the line y = -2x + 6