## Unit 6 Lesson 9: Equations of Lines

### 1 Remembering Slope (Warm up)

#### Student Task Statement

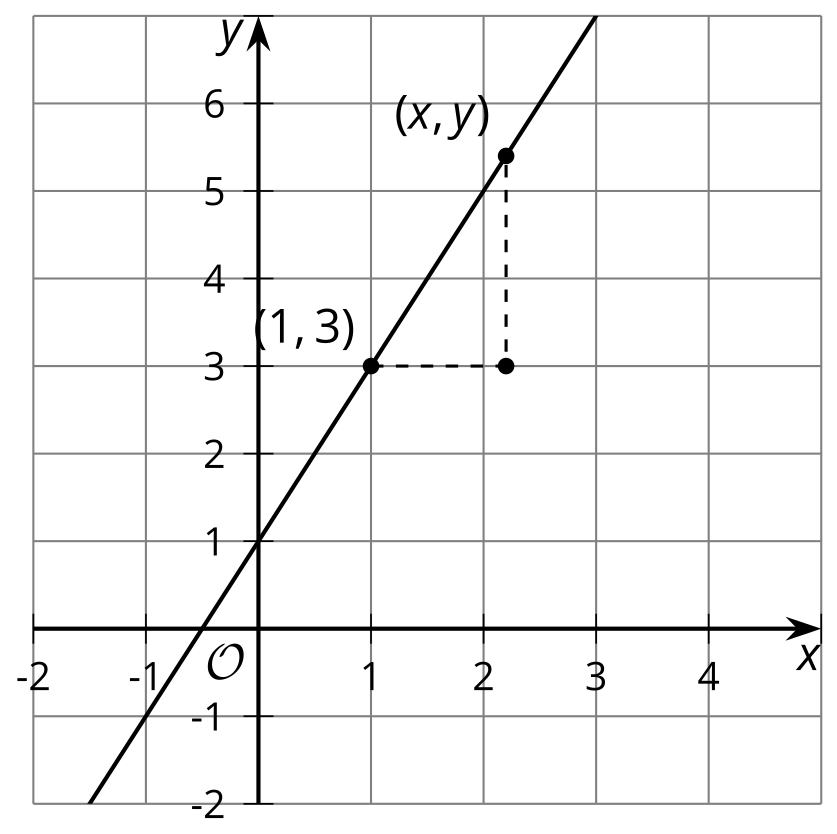


The slope of the line in the image is . Explain how you know this is true.

### 2 Building an Equation for a Line

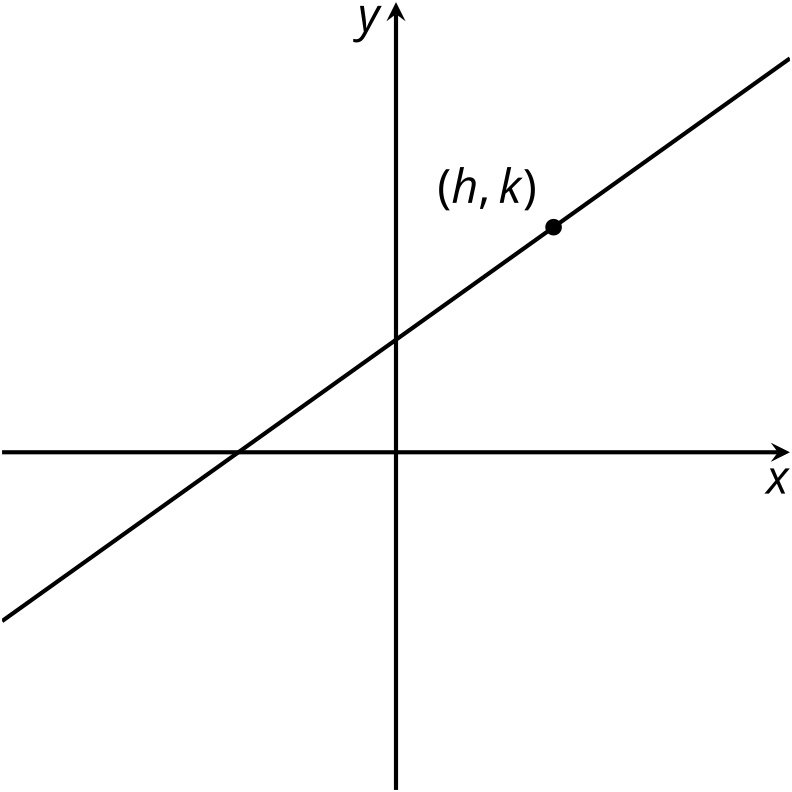
#### Student Task Statement

1. The image shows a line.

* 
  1. Write an equation that says the slope between the points and is 2.
  2. Look at this equation:   
     How does it relate to the equation you wrote?

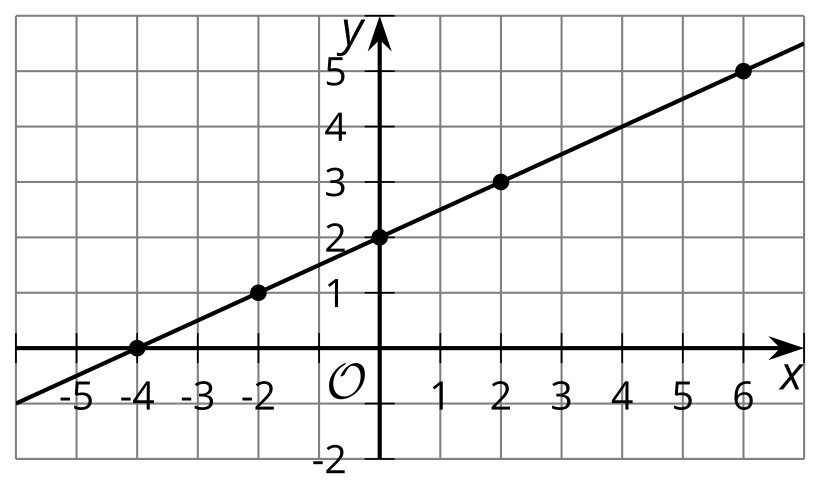
1. Here is an equation for another line:
   1. What point do you know this line passes through?
   2. What is the slope of this line?
2. Next, let’s write a general equation that we can use for any line. Suppose we know a line passes through a particular point .
   1. Write an equation that says the slope between point and is .
   2. Look at this equation: . How does it relate to the equation you wrote?

#### Activity Synthesis

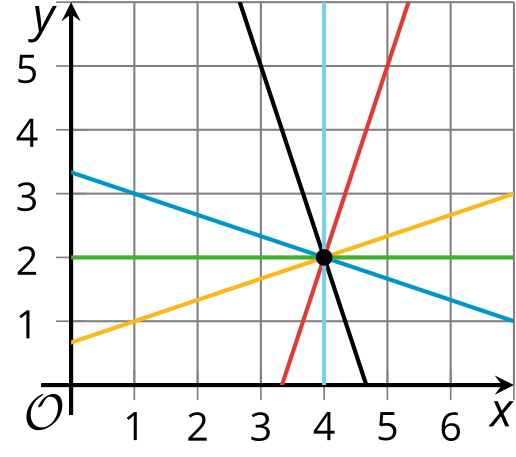


### 3 Using Point-Slope Form

#### Student Task Statement

1. Write an equation that describes each line.
   1. the line passing through point with slope
   2. the line passing through point with slope
   3. the line passing through point with slope -1
   4. the line in the image
   * 
2. Using the structure of the equation, what point do you know each line passes through? What’s the line’s slope?

#### Images for Activity Synthesis





© CC BY 2019 by Illustrative Mathematics®