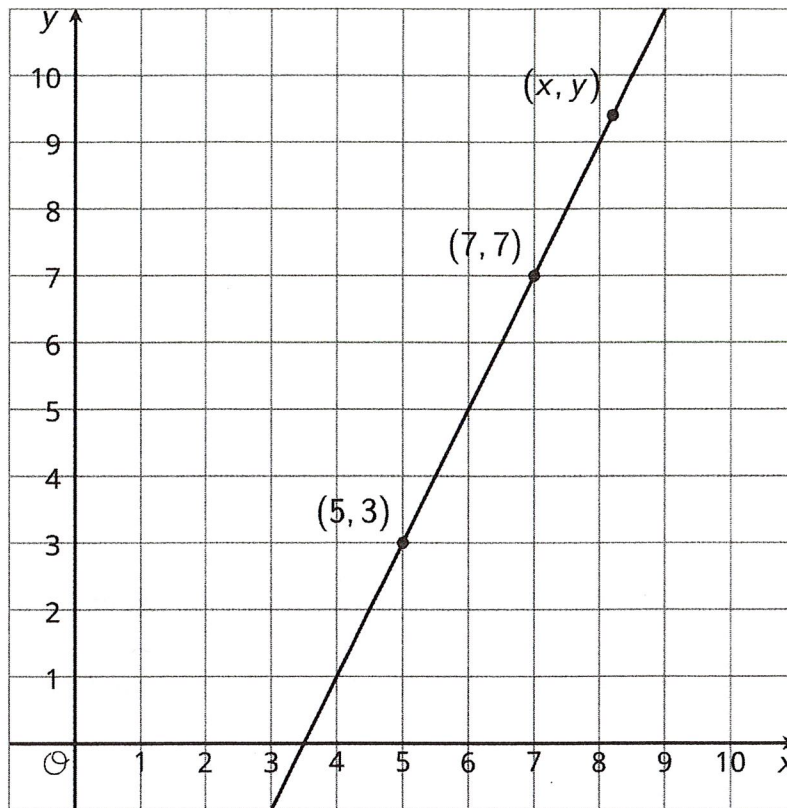


## Unit 2 Lesson 12

### 12.2: Writing Relationships from Two Points

Here is a line.



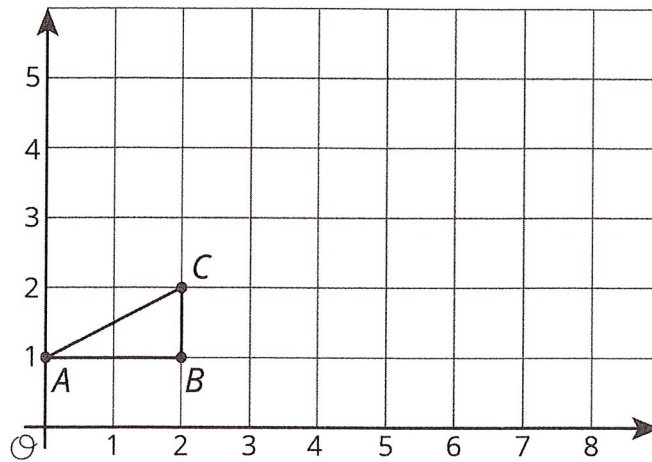
1. Using what you know about similar triangles, find an equation for the line in the diagram.
2. What is the slope of this line? Does it appear in your equation?
3. Is (9, 11) also on the line? How do you know?
4. Is (100, 193) also on the line?

#### Are you ready for more?

There are many different ways to write down an equation for a line like the one in the problem. Does  $\frac{y-3}{x-6} = 2$  represent the line? What about  $\frac{y-6}{x-4} = 5$ ? What about  $\frac{y+5}{x-1} = 2$ ? Explain your reasoning.

### 12.3: Dilations and Slope Triangles

Here is triangle  $ABC$ .



1. Draw the dilation of triangle  $ABC$  with center  $(0, 1)$  and scale factor  $2$ .
2. Draw the dilation of triangle  $ABC$  with center  $(0, 1)$  and scale factor  $2.5$ .
3. Where is  $C$  mapped by the dilation with center  $(0, 1)$  and scale factor  $s$ ?
4. For which scale factor does the dilation with center  $(0, 1)$  send  $C$  to  $(9, 5.5)$ ? Explain how you know.