

# Slope-Intercept Form: Writing Equations



An equation is in **slope-intercept form** if it is written like this:

$$y = mx + b$$

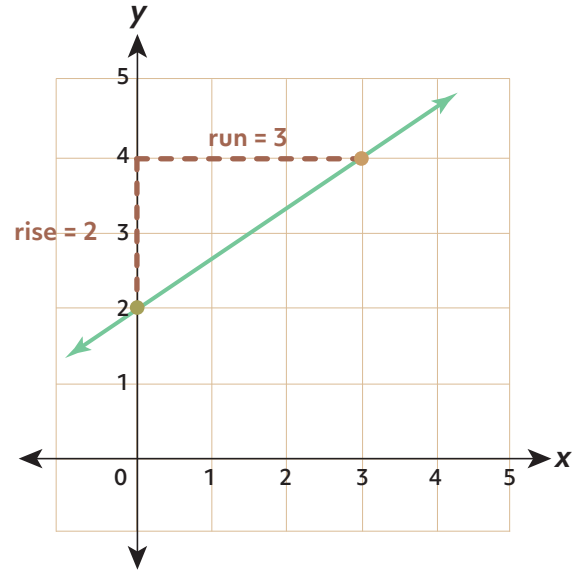
In slope-intercept form,  $m$  is the **slope** and  $b$  is the **y-intercept**.  
If you have a graph of a line, you can write its equation in slope-intercept form.

## Let's try an example!

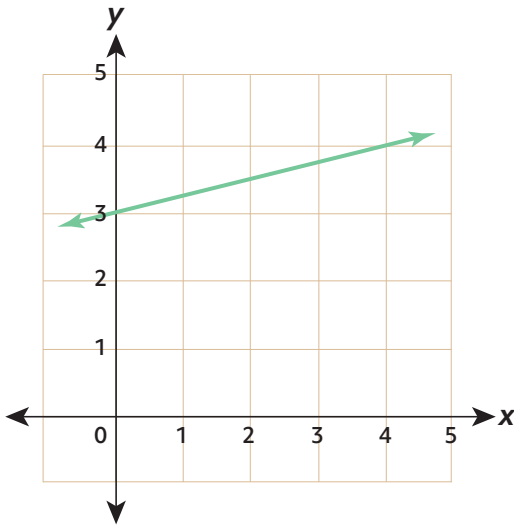
First, identify the y-intercept. The line crosses the y-axis at  $(0, 2)$ . So, the y-intercept is  $2$ .

Next, find the slope using the y-intercept and another point on the line. Select a point that is easy to identify, like  $(3, 4)$ . Remember that slope =  $\frac{\text{rise}}{\text{run}}$ . Since the rise is 2 and the run is 3, the slope of this line is  $\frac{2}{3}$ .

Last, write the equation of the line in slope-intercept form:  
 $y = \frac{2}{3}x + 2$ .

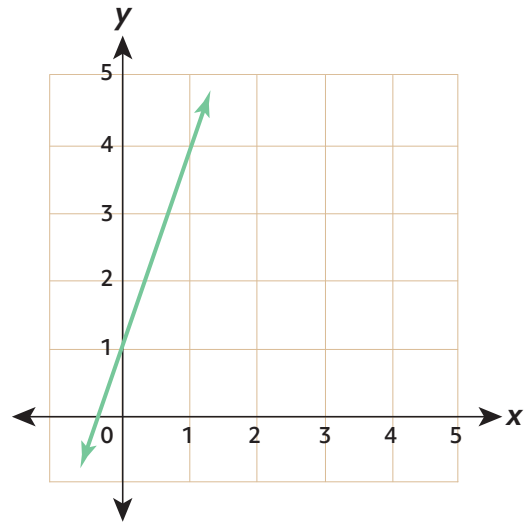


**Try it yourself!** Find the slope and y-intercept of each line. Write the slope as a simplified fraction or integer. Then, write an equation for each line in slope-intercept form.



$m = \underline{\hspace{2cm}}$        $b = \underline{\hspace{2cm}}$

Equation: \_\_\_\_\_

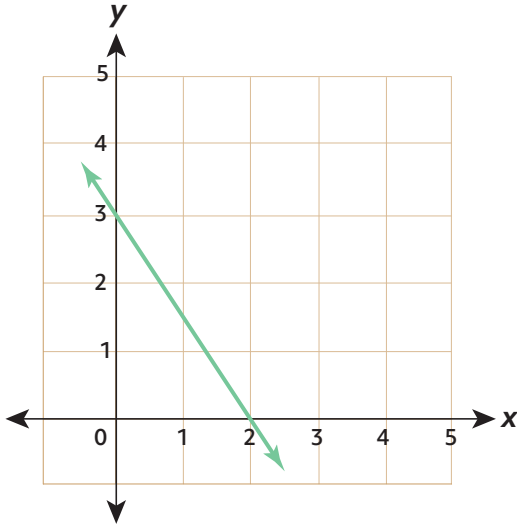


$m = \underline{\hspace{2cm}}$        $b = \underline{\hspace{2cm}}$

Equation: \_\_\_\_\_

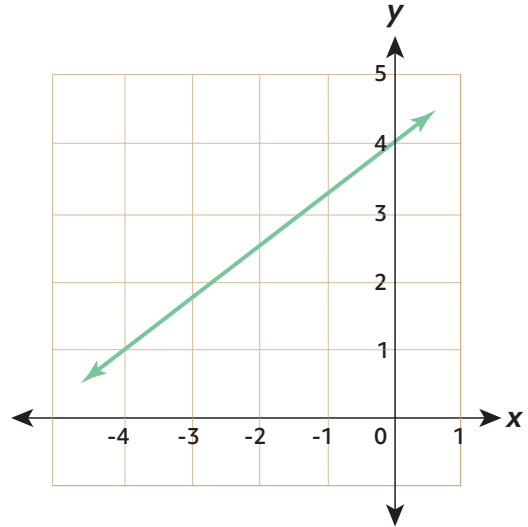
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**Keep going!** Find the slope and y-intercept of each line. Write the slope as a simplified fraction or integer. Then, write an equation for each line in slope-intercept form.



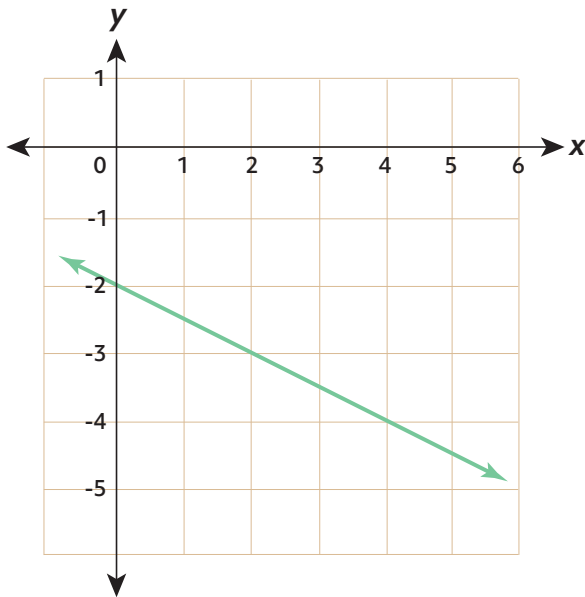
$m = \underline{\hspace{2cm}}$        $b = \underline{\hspace{2cm}}$

Equation: \_\_\_\_\_



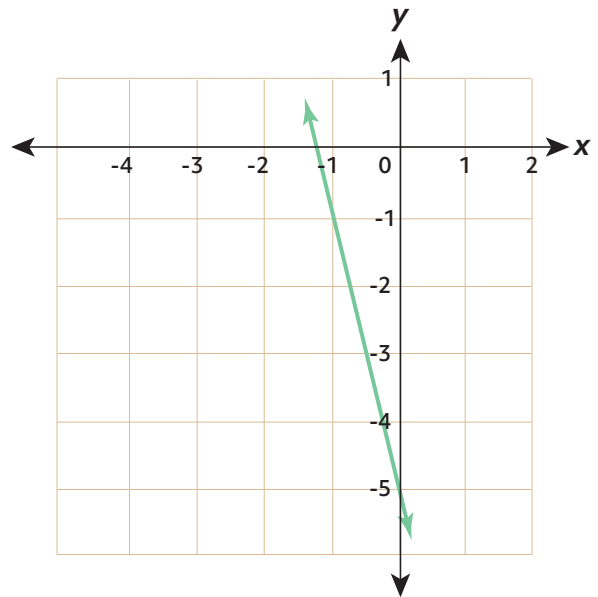
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Equation: \_\_\_\_\_



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Equation: \_\_\_\_\_