

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

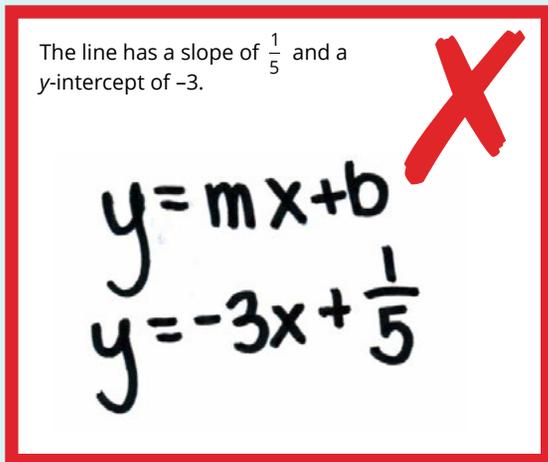
Teacher: \_\_\_\_\_ Section: \_\_\_\_\_

For each set, first examine the problem on the left and answer the question(s) about it. Then complete the similar problem on the right.

**SET 1:** Write an equation in **slope-intercept form** using the information provided. SHOW ALL OF YOUR WORK.

Eddie **didn't** write this equation correctly.  
Here is his work:

The line has a slope of  $\frac{1}{5}$  and a y-intercept of  $-3$ .



$y = mx + b$   
 $y = -3x + \frac{1}{5}$

- Which variable ( $m$  or  $b$ ) does Eddie think represents the slope in the equation?
- Rewrite the equation correctly.



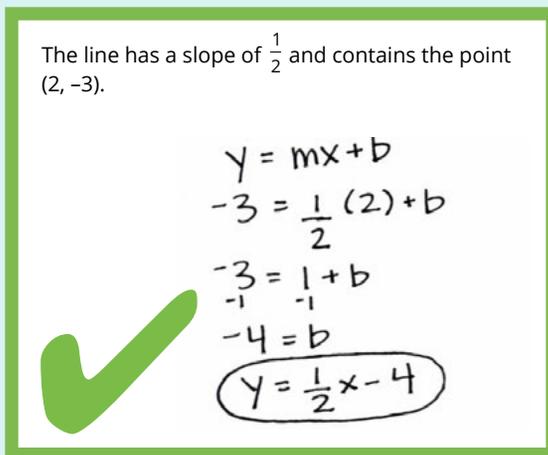
**Your Turn:**

The line has a slope of  $-\frac{1}{5}$  and a y-intercept of  $3$ .

**SET 2:** Write an equation in **slope-intercept form** using the information provided. SHOW ALL OF YOUR WORK.

Sarah wrote this equation **correctly**.  
Here is her work:

The line has a slope of  $\frac{1}{2}$  and contains the point  $(2, -3)$ .



$y = mx + b$   
 $-3 = \frac{1}{2}(2) + b$   
 $-3 = 1 + b$   
 $-4 = b$   
 $y = \frac{1}{2}x - 4$

- How did Sarah know she had to solve for  $b$  first?



**Your Turn:**

The line has a slope of  $3$  and contains the point  $(2, 2)$ .

**SET 3:** Write an equation in **slope-intercept form** using the information provided. SHOW ALL OF YOUR WORK.

Bao wrote this equation **correctly**.  
Here is his work:

The line contains the points (3, 1) and (-3, -1).

$$m = \frac{\text{change in } y}{\text{change in } x}$$

$$= \frac{-1 - 1}{-3 - 3}$$

$$= \frac{-2}{-6}$$

$$= \frac{1}{3}$$

$$y = mx + b$$

$$y = \frac{1}{3}x + b$$

$$1 = \frac{1}{3}(3) + b$$

$$1 = 1 + b$$

$$-1 \quad -1$$

$$0 = b$$

$$y = \frac{1}{3}x + 0$$

- In the step marked with an arrow, which coordinates did Bao use in this equation?
- If Bao had used the other point, would he have come up with the same equation? Explain your reasoning.



**Your Turn:**

The line contains the points (2, 3) and (6, 4).

**SET 4:** Write an equation in **slope-intercept form** using the information provided. SHOW ALL OF YOUR WORK.

Rasheena **didn't** write this equation correctly.  
Here is her work:

The line has an x-intercept of 3 and a y-intercept of -2.

$$y = mx + b$$

$$0 = m(3) + 2$$

$$-2 \quad -2$$

$$-2 = m(3)$$

$$\div 3 \quad \div 3$$

$$-\frac{2}{3} = m$$

$$y = \frac{-2}{3}x + 2$$

- Rasheena substituted correctly for  $x$  and  $y$ . Which point did she use to replace  $x$  and  $y$  in this equation?
- Rasheena did not substitute correctly for  $b$ . What value should she have put in for  $b$ ?
- If Rasheena substituted the point (3, -2) for  $x$  and  $y$ , would she have been correct? Why or why not?



**Your Turn:**

The line has an x-intercept of -2 and a y-intercept of 3.