

# Writing the Equations of Vertical and Horizontal Lines through a Given Point

## • Example 1

Write the equation of the horizontal line that passes through the point  $(-4, -7)$ .

The slope of a horizontal line is 0, so we seek an equation of the form  $y = b$ . Because the line must contain the point  $(-4, -7)$ , that is, a point with a  $y$ -coordinate equal to  $-7$ , we must have  $b = -7$ .

The equation of the line is thus

$$y = -7.$$

### ● ● ● CHECK YOURSELF 1

Write the equation of the line passing through the given point.

- Horizontal passing through  $(-9, 14)$
  - Vertical passing through  $(-9, 14)$
- 

### ● ● ● CHECK YOURSELF ANSWER

1.(a)  $y = 14$ ; (b)  $x = -9$ .

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# 3.15 Exercises

Name \_\_\_\_\_

Section \_\_\_\_\_

Date \_\_\_\_\_

## A N S W E R S

1. \_\_\_\_\_

Write the equation of the line passing through the given point.

2. \_\_\_\_\_

1. Horizontal; (0, 15)

2. Vertical; (-6, -7)

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

3. Vertical; (0, 0)

4. Horizontal; (0, 0)

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_

5. Horizontal; (-4, 10)

6. Vertical; (7, 12)

7. Vertical; (8, -6)

8. Horizontal; (-4, 3)

9. Horizontal; (7, 12)

10. Vertical; (-9, -6)