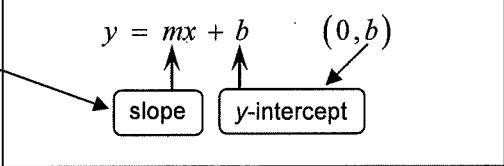


$$\text{slope} = m = \frac{\text{rise}}{\text{run}} = \frac{\text{change in } y}{\text{change in } x} = \frac{y_2 - y_1}{x_2 - x_1}$$

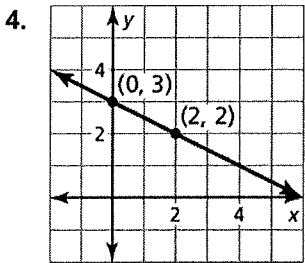


**Writing Linear Equations in Slope-Intercept Form**

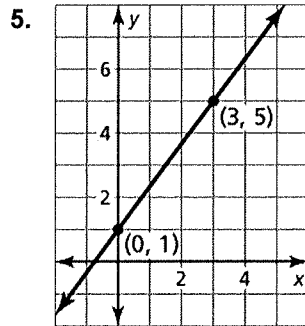
In Exercises 1–3, write an equation of the line with the given slope and y-intercept.

- |                               |                                |                                |
|-------------------------------|--------------------------------|--------------------------------|
| 1. slope: 3<br>y-intercept: 8 | 2. slope: -4<br>y-intercept: 0 | 3. slope: 0<br>y-intercept: -2 |
|-------------------------------|--------------------------------|--------------------------------|

#4 and 5, write an equation of the line in slope-intercept form. First find  $m$  and  $b$ .



$m =$   
 $b =$



$m =$   
 $b =$

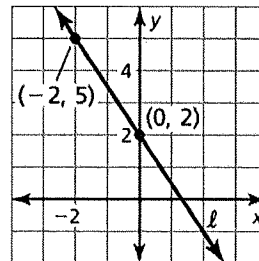
In Exercises 6–8, write an equation of the line that passes through the given points. First find the slope using the two points! Remember that the  $y$ -value “ $b$ ” of the  $y$ -intercept is always the output when  $x = 0$ .

6.  $(2, 3), (0, 9)$   
 $b =$  ,  $m =$

7.  $(5, -2), (0, -2)$   
 $b =$  ,  $m =$

8.  $(-1, 4), (0, -2)$   
 $b =$  ,  $m =$

9. Write an equation that represents the line graphed at the right.

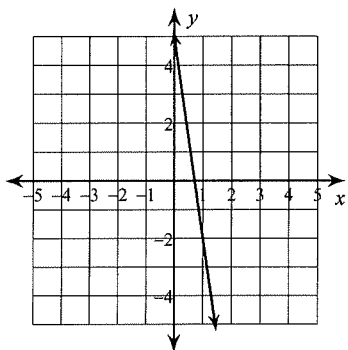


## HW 40

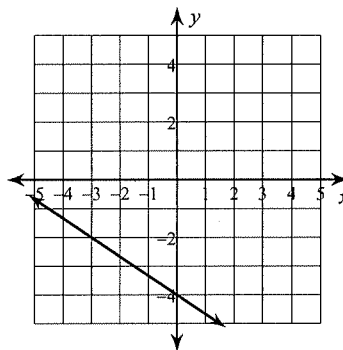
Date \_\_\_\_\_ Period \_\_\_\_\_

Write the slope-intercept form of the equation of each line.

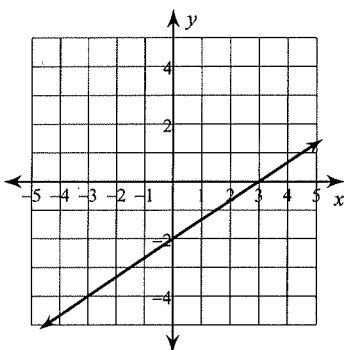
1)



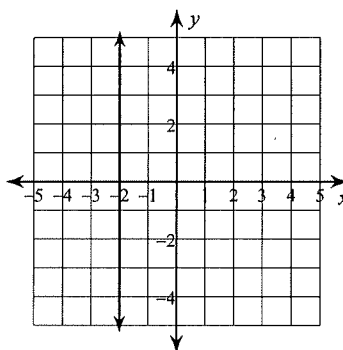
2)



3)



4)



Write the slope-intercept form of the equation of each line given the slope and y-intercept.

5) Slope = 1, y-intercept = -4

6) Slope =  $\frac{3}{2}$ , y-intercept = 5

**Write the slope-intercept form of the equation of the line through the given point with the given slope.**

7) through:  $(4, 0)$ , slope =  $-\frac{1}{4}$

8) through:  $(2, -5)$ , slope =  $-3$

**Write the slope-intercept form of the equation of the line through the given points. First find the slope and identify the y-intercept.**

9) through:  $(-5, -1)$  and  $(0, 3)$

10) through:  $(3, -5)$  and  $(0, 4)$

11) through:  $(0, 3)$  and  $(3, -1)$

12) through:  $(0, 4)$  and  $(1, -1)$

**Challenge: Write the slope-intercept form of the equation of the line described. remember, parallel lines have the same slope! First, find the slope from the given line.**

13) through:  $(1, -1)$ , parallel to  $y = -6x + 2$

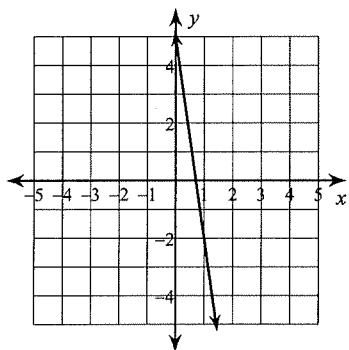
14) through:  $(-3, -2)$ , parallel to  $y = \frac{7}{3}x - 1$

## HW 40

Date \_\_\_\_\_ Period \_\_\_\_\_

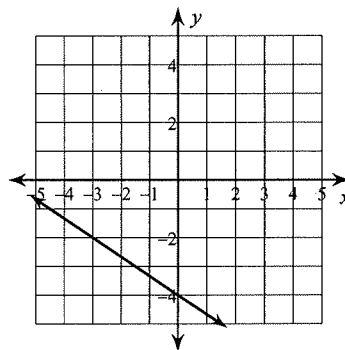
Write the slope-intercept form of the equation of each line.

1)



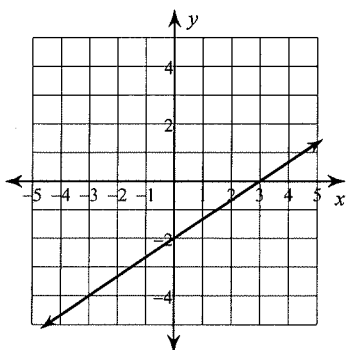
$$y = -7x + 5$$

2)



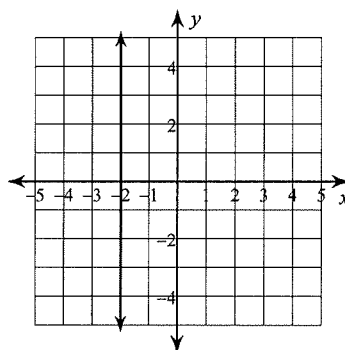
$$y = -\frac{2}{3}x - 4$$

3)



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

4)



$$x = -2$$

Write the slope-intercept form of the equation of each line given the slope and y-intercept.

5) Slope = 1, y-intercept = -4

$$y = x - 4$$

6) Slope =  $\frac{3}{2}$ , y-intercept = 5

$$y = \frac{3}{2}x + 5$$

**Write the slope-intercept form of the equation of the line through the given point with the given slope.**

7) through:  $(4, 0)$ , slope =  $-\frac{1}{4}$

$$y = -\frac{1}{4}x + 1$$

8) through:  $(2, -5)$ , slope =  $-3$

$$y = -3x + 1$$

**Write the slope-intercept form of the equation of the line through the given points. First find the slope and identify the y-intercept.**

9) through:  $(-5, -1)$  and  $(0, 3)$

$$y = \frac{4}{5}x + 3$$

10) through:  $(3, -5)$  and  $(0, 4)$

$$y = -3x + 4$$

11) through:  $(0, 3)$  and  $(3, -1)$

$$y = -\frac{4}{3}x + 3$$

12) through:  $(0, 4)$  and  $(1, -1)$

$$y = -5x + 4$$

**Challenge: Write the slope-intercept form of the equation of the line described. remember, parallel lines have the same slope! First, find the slope from the given line.**

13) through:  $(1, -1)$ , parallel to  $y = -6x + 2$

$$y = -6x + 5$$

14) through:  $(-3, -2)$ , parallel to  $y = \frac{7}{3}x - 1$

$$y = \frac{7}{3}x + 5$$