

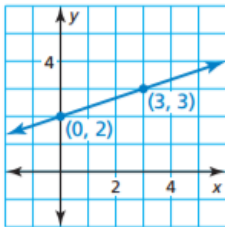
Monitoring Progress and Modeling with Mathematics

In Exercises 3–8, write an equation of the line with the given slope and y-intercept. (See Example 1.)

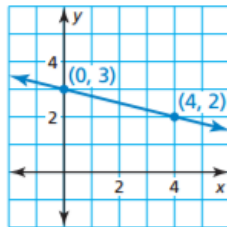
- | | |
|--|---|
| 3. slope: 2
y-intercept: 9 | 4. slope: 0
y-intercept: 5 |
| 5. slope: -3
y-intercept: 0 | 6. slope: -7
y-intercept: 1 |
| 7. slope: $\frac{2}{3}$
y-intercept: -8 | 8. slope: $-\frac{3}{4}$
y-intercept: -6 |

In Exercises 9–12, write an equation of the line in slope-intercept form. (See Example 2.)

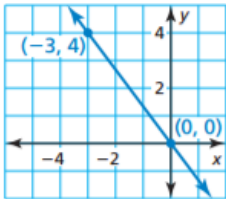
9.



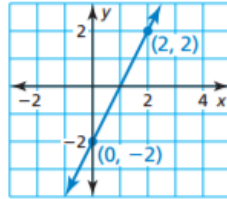
10.



11.



12.



In Exercises 13–18, write an equation of the line that passes through the given points. (See Example 3.)

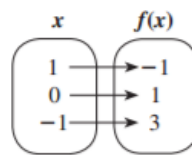
- | | |
|-----------------------|-----------------------|
| 13. (3, 1), (0, 10) | 14. (2, 7), (0, -5) |
| 15. (2, -4), (0, -4) | 16. (-6, 0), (0, -24) |
| 17. (0, 5), (-1.5, 1) | 18. (0, 3), (-5, 2.5) |

In Exercises 19–24, write a linear function f with the given values. (See Example 4.)

19. $f(0) = 2, f(2) = 4$ 20. $f(0) = 7, f(3) = 1$
21. $f(4) = -3, f(0) = -2$
22. $f(5) = -1, f(0) = -5$
23. $f(-2) = 6, f(0) = -4$
24. $f(0) = 3, f(-6) = 3$

In Exercises 25 and 26, write a linear function f with the given values.

25.



26.

x	$f(x)$
-4	-2
-2	-1
0	0

27. **ERROR ANALYSIS** Describe and correct the error in writing an equation of the line with a slope of 2 and a y-intercept of 7.

✗

$y = 7x + 2$

28. **ERROR ANALYSIS** Describe and correct the error in writing an equation of the line shown.

✗

$$\begin{aligned} \text{slope} &= \frac{1 - 4}{0 - 5} \\ &= \frac{-3}{-5} = \frac{3}{5} \\ y &= \frac{3}{5}x + 4 \end{aligned}$$

A coordinate plane showing a line passing through the points (0, 4) and (5, 1). The x-axis is labeled from 0 to 6, and the y-axis is labeled from 0 to 4.