USING A GRAPH Write an equation of the line shown.

18.

(3, 3)
(0, 2)

19.

(0, 4)
(−1, 0)

20.

(0, 3)
(4, 2)

21.

(−3, 4)
2
(0, 0)

22.

1
(4, 0)
(0, −4)

23.

(2, 2)
2
(0, −2)
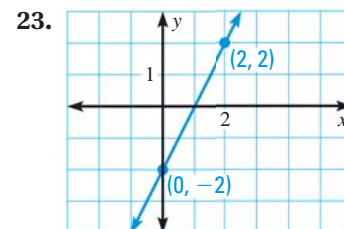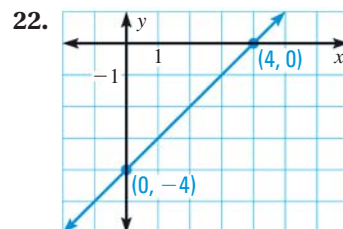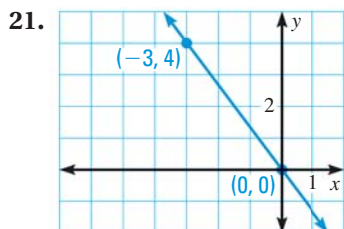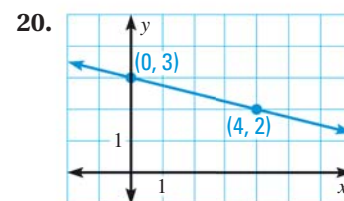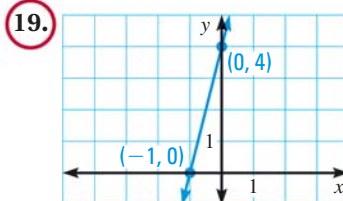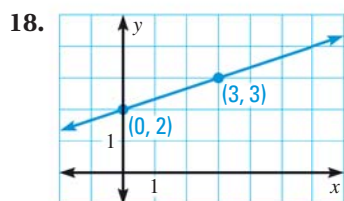
USING TWO POINTS Write an equation of the line that passes through the given points.

24. $(-3, 1), (0, -8)$

25. $(2, -7), (0, -5)$

26. $(2, -4), (0, -4)$

27. $(0, 4), (8, 3.5)$

28. $(0, 5), (1.5, 1)$

29. $(-6, 0), (0, -24)$

WRITING FUNCTIONS Write an equation for the linear function f with the given values.

30. $f(0) = 2, f(2) = 4$

31. $f(0) = 7, f(3) = 1$

32. $f(0) = -2, f(4) = -3$

33. $f(0) = -1, f(5) = -5$

34. $f(-2) = 6, f(0) = -4$
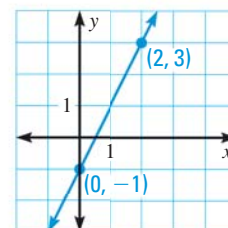
35. $f(-6) = -1, f(0) = 3$

36. $f(4) = 13, f(0) = 21$

37. $f(0) = 9, f(3) = 0$

38. $f(0.2) = 1, f(0) = 0.6$

39. VISUAL THINKING Write an equation of the line with a slope that is half the slope of the line shown and a y-intercept that is 2 less than the y-intercept of the line shown.

(2, 3)
1
(0, −1)

40. ◆ **TAKS REASONING** *Describe* a real-world situation that can be modeled by the function $y = 4x + 9$.

USING A DIAGRAM OR TABLE Write an equation that represents the linear function shown in the mapping diagram or table.

41.

x	f(x)
1	−1
0	1
−1	3
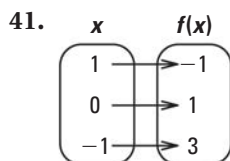
42.

x	f(x)
−4	−2
−2	−1
0	0

43. WRITING A line passes through the points (3, 5) and (3, −7). Is it possible to write an equation of the line in slope-intercept form? *Justify* your answer.

44. CHALLENGE Show that the equation of the line that passes through the points $(0, b)$ and $(1, b + m)$ is $y = mx + b$. *Explain* how you can be sure that the point $(-1, b - m)$ also lies on the line.