5.2 EXERCISES

HOMEWORK KEY

- = **WORKED-OUT SOLUTIONS** on p. WS1 for Exs. 5, 11, and 49
- = **TAKS PRACTICE AND REASONING** Exs. 29, 34, 35, 36, 37, 49, 55, and 56
- = **MULTIPLE REPRESENTATIONS** Ex. 53

SKILL PRACTICE

1. **VOCABULARY** What is the y-coordinate of a point where a graph crosses the y-axis called?

2. **WRITING** If the equation $y = mx + b$ is used to model a quantity y as a function of the quantity x, why is b considered to be the starting value?

EXAMPLE 1 on p. 292 for Exs. 3–9

WRITING EQUATIONS **Write an equation of the line that passes through the given point and has the given slope m.**

3. $(1, 1)$; $m = 3$
4. $(5, 1)$; $m = 2$
5. $(-4, 7)$; $m = -5$
6. $(5, -5)$; $m = -2$
7. $(8, -4)$; $m = -\frac{3}{4}$
8. $(-3, -11)$; $m = \frac{1}{2}$

9. **ERROR ANALYSIS** *Describe* and correct the error in finding the y-intercept of the line that passes through the point $(6, -3)$ and has a slope of -2.

$y = mx + b$
$6 = -2(-3) + b$
$6 = 6 + b$
$0 = b$

EXAMPLE 4 on p. 294 for Ex. 10

10. **ERROR ANALYSIS** An Internet service provider charges \$18 per month plus an initial set-up fee. One customer paid a total of \$81 after 2 months of service. *Describe* and correct the error in finding the set-up fee.

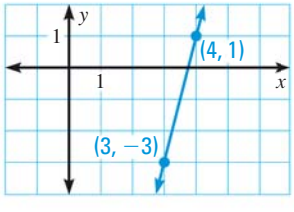
$C = mt + b$
$81 = m(2) + 18$
$63 = m(2)$
$31.50 = m$

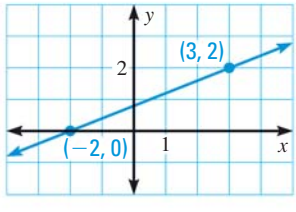
EXAMPLE 2 on p. 293 for Exs. 11–22

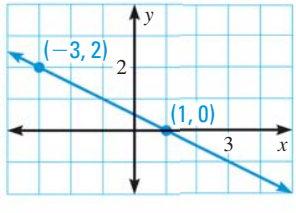
USING TWO POINTS **Write an equation of the line that passes through the given points.**

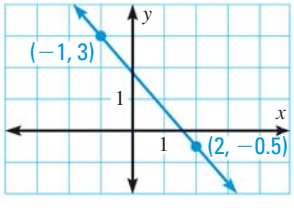
11. $(1, 4)$, $(2, 7)$
12. $(3, 2)$, $(4, 9)$
13. $(10, -5)$, $(-5, 1)$
14. $(-2, 8)$, $(-6, 0)$
15. $\left(\frac{9}{2}, 1\right)$, $\left(-\frac{7}{2}, 7\right)$
16. $\left(-5, \frac{3}{4}\right)$, $\left(-2, -\frac{3}{4}\right)$

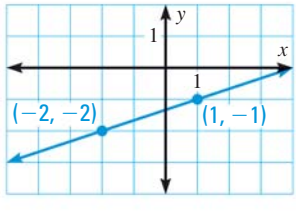
USING A GRAPH **Write an equation of the line shown.**

17. 

18. 

19. 

20. 

21. 

22.