

Chapter 4 continued

28. $-4x - 1 = 7$

$-4x - 8 = 0$

$y = -4x - 8$

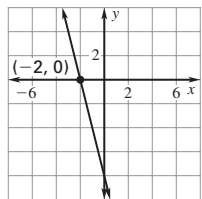
Check:

$-4x - 1 = 7$

$-4(-2) - 1 \stackrel{?}{=} 7$

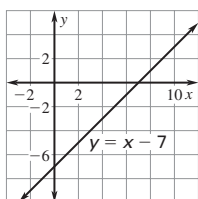
$8 - 1 \stackrel{?}{=} 7$

$7 = 7$



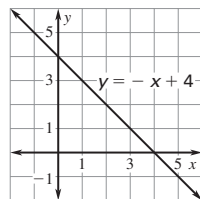
29. $f(x) = x - 7$

$f(-2) = -2 - 7 = -9$



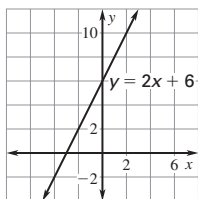
30. $f(x) = -x + 4$

$f(4) = -4 + 4 = 0$



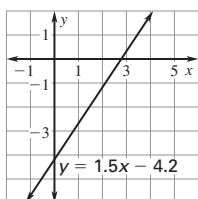
31. $f(x) = 2x + 6$

$f(-3) = 2(-3) + 6 = -6 + 6 = 0$



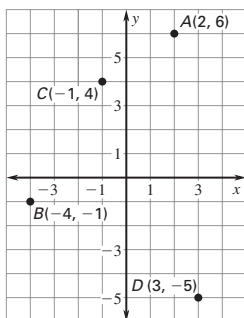
32. $f(x) = 1.5x - 4.2$

$f(-9) = 1.5(-9) - 4.2 = -13.5 - 4.2 = -17.7$

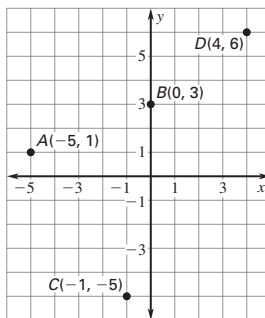


Chapter 4 Test (p. 267)

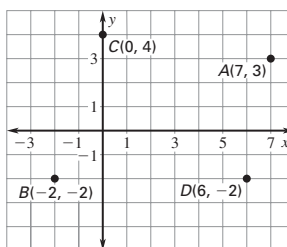
1.



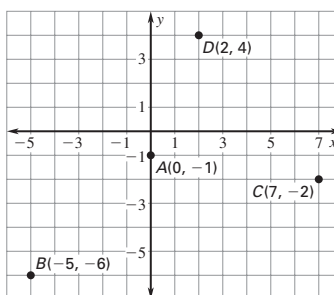
2.



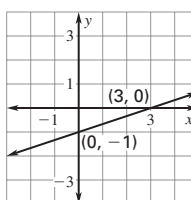
3.



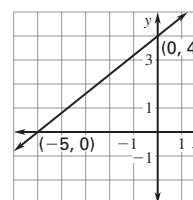
4.



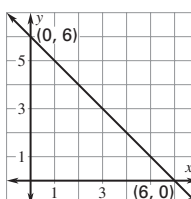
5.



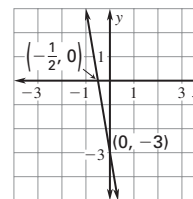
6.



7.

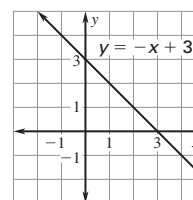


8.



9.

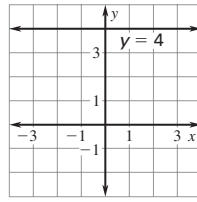
x	y
-1	4
0	3
1	2



Chapter 4 continued

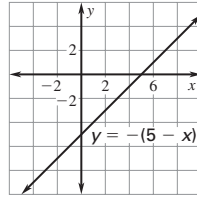
10.

x	y
-2	4
0	4
2	4



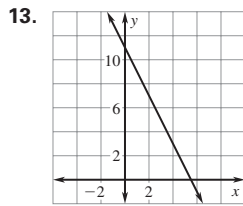
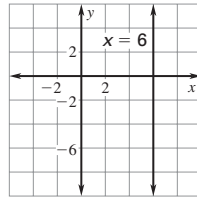
11.

x	y
-1	-6
0	-5
1	-4

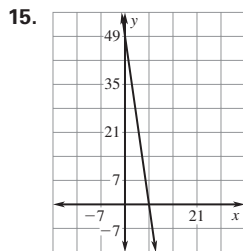


12.

x	y
6	-2
6	0
6	2

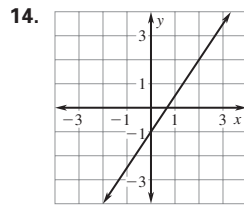
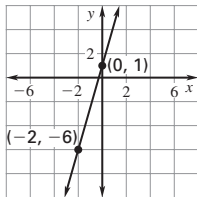


Methods may vary.

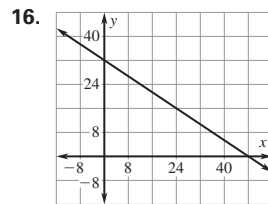


Methods may vary.

17. $m = \frac{-6 - 1}{-2 - 0} = \frac{-7}{-2} = \frac{7}{2}$

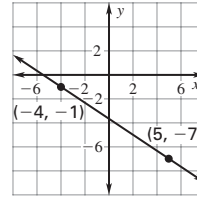


Methods may vary.

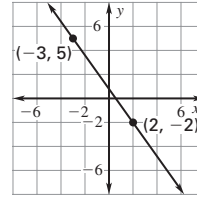


Methods may vary.

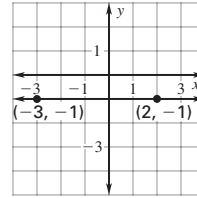
18. $m = \frac{-1 - (-7)}{-4 - 5} = \frac{6}{-9} = -\frac{2}{3}$



19. $m = \frac{-2 - 5}{2 - (-3)} = -\frac{7}{5}$



20. $m = \frac{-1 - (-1)}{2 - (-3)} = \frac{0}{5} = 0$



21. $y = kx$

$$-2 = k(-2)$$

$$1 = k$$

$$y = x$$

23. $y = kx$

$$7 = k(-3)$$

$$-\frac{7}{3} = k$$

$$y = -\frac{7}{3}x$$

25. $y = kx$

$$3.9 = k(1.3)$$

$$3 = k$$

$$y = 3x$$

27. The lines are not parallel because they have different slopes.

$$y = 4x + 3$$

$$y = -4x - 5$$

22. $y = kx$

$$10 = k(2)$$

$$5 = k$$

$$y = 5x$$

24. $y = kx$

$$6 = k\left(\frac{1}{2}\right)$$

$$12 = k$$

$$y = 12x$$

26. $y = kx$

$$3.2 = k(1.6)$$

$$0.2 = k$$

$$y = 0.2x$$

28. The lines are parallel because their slopes are equal.

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

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

Chapter 4 continued

29. $x - 2 = -3x$

$$4x - 2 = 0$$

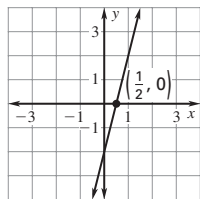
$$y = 4x - 2$$

Check:

$$x - 2 = -3x$$

$$\frac{1}{2} - 2 \stackrel{?}{=} -3\left(\frac{1}{2}\right)$$

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



30. $f(x) = 6x$

$$f(3) = 6(3) = 18$$

$$f(0) = 6(0) = 0$$

$$f(-4) = 6(-4) = -24$$

31. $f(x) = -(x - 2)$

$$f(3) = -(3 - 2) = -1$$

$$f(0) = -(0 - 2) = -(-2) = 2$$

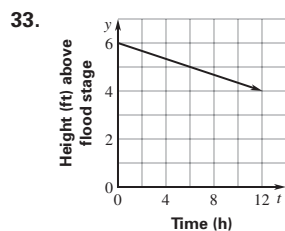
$$f(-4) = -(-6) = -(-6) = 6$$

32. $g(x) = 3.2x + 2.8$

$$g(3) = 3.2(3) + 2.8 = 9.6 + 2.8 = 12.4$$

$$g(0) = 3.2(0) + 2.8 = 2.8$$

$$g(-4) = 3.2(-4) + 2.8 = -12.8 + 2.8 = -10$$



34. Shoe size is a function of foot length because no shoe sizes have the same foot length.

Chapter 4 Standardized Test (pp. 268–269)

1. E

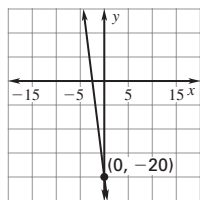
2. A

$$-4x - \frac{1}{2}y = 10$$

$$-4(0) - \frac{1}{2}y = 10$$

$$-\frac{1}{2}y = 10$$

$$y = -20$$



3. C

$$3x - 4y = 20$$

$$-4y = -3x + 20$$

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

4. D

$$m = \frac{1 - 2}{2 - 1} = \frac{-1}{1} = -1$$

5. C

$$m = \frac{0 - 3}{-5 - 0} = \frac{-3}{-5} = \frac{3}{5}$$

6. B

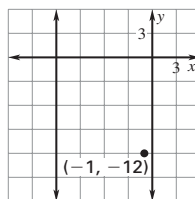
$$5x - y = -2$$

$$-y = -5x - 2$$

$$y = 5x + 2$$

7. D

$$(-1, -12)$$



8. D

$$-13x - y = -65$$

$$-13x - 0 = -65$$

$$-13x = -65$$

$$x = 5$$

9. C

$$f(x) = -x^2 - 6x - 7$$

$$f(-2) = -(-2)^2 - 6(-2) - 7 = -4 + 12 - 7 = 1$$

10. C

$$a. m = \frac{-3 - (-3)}{-12 - 4} = \frac{0}{-16} = 0$$

The two numbers are equal.

b. 0

11. A

$$a. m = \frac{4 - 6}{-7 - 4.5} = \frac{-2}{-11.5} = \frac{2}{11.5}$$

The slope of the line in column A is greater.

$$b. m = \frac{-7 - 4.5}{4 - (-6)} = \frac{-11.5}{10} = -\frac{11.5}{10}$$

12. D

$$a. m = \frac{4 - y}{6.8 - 3.5}$$

$$b. m = \frac{4 - q}{6.8 - 3.5}$$

The relationship cannot be determined from the given information.

13. a. I. Upgrade II. Unlimited III. Standard

b. $T = 15 + b$

c. Standard

Standard service is less for any number of hours up to 15 hours.

d. Upgrade

$$\begin{aligned} \text{Upgrade} = T &= 15 + (b - 20) \\ &= 15 + (24 - 20) \\ &= 15 + 4 \\ &= \$19 \end{aligned}$$

$$\begin{aligned} \text{Standard} = T &= 10 + (b - 10) \\ &= 10 + (24 - 10) \\ &= 10 + 14 \\ &= \$24 \end{aligned}$$

$$\text{Unlimited} = T = \$20$$

e. The model in part a gives cost as a function of total time. The model $c = 10 + a$ gives cost as a function of time beyond 10 hours.