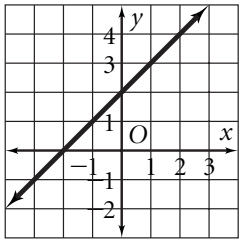
Chapter 6 Answers

Practice 6-1

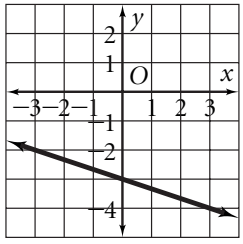
1. $\frac{5}{3}$ **2.** -2 **3.** $-\frac{2}{3}$ **4.** 3 **5.** $\frac{3}{2}$ **6.** $\frac{4}{3}$ **7.** $\frac{1}{3}$ **8.** $-\frac{3}{4}$ **9.** 1
10. $-\frac{9}{5}$ **11.** $\frac{3}{4}$ **12.** $\frac{5}{3}$ **13.** 0 **14.** undefined **15.** -2
16. 3; point score increases by 3 for each 3-point basket.
17. $\frac{1}{5}$; sound travels 1 mi for each 5 s.
18. -16; the speed decreases 16 ft/s every second. **19.** $\frac{7}{3}$
20. $-\frac{5}{6}$ **21.** -2 **22.** -4 **23.** $\frac{4}{3}$ **24.** 0 **25.** undefined
26. 0 **27.** undefined

Practice 6-2

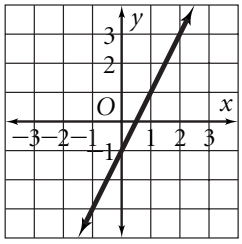
1. 1; 2



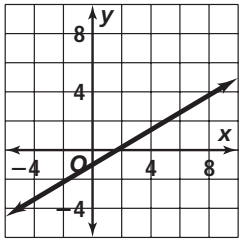
2. $-\frac{1}{3}$; -3



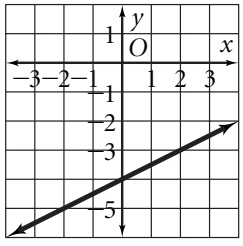
3. 2; -1



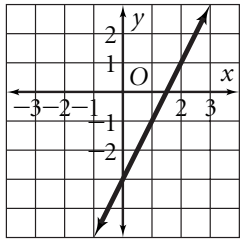
4. $\frac{3}{5}$; -1



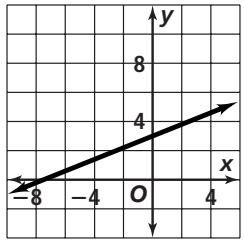
5. $\frac{1}{2}$; -4



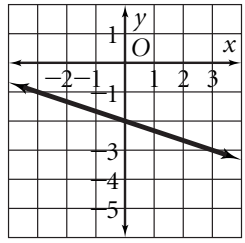
6. 2; -3



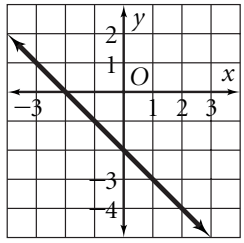
7. $\frac{2}{5}$; 3



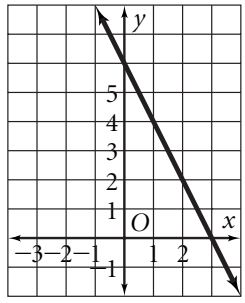
8. $-\frac{1}{3}$; -2



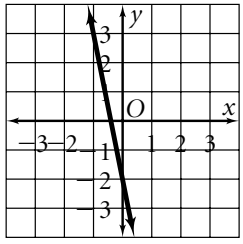
9. -1; -2



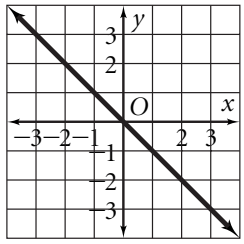
10. -2; 6



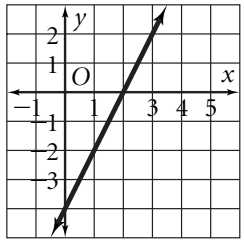
11. -5; -2



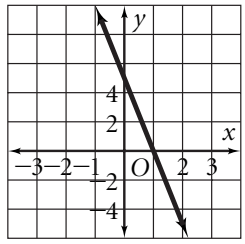
12. -1; 0



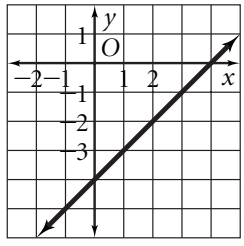
13. 2; -4



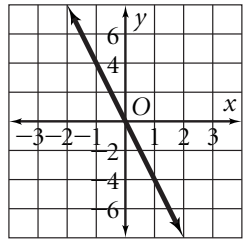
14. -5; 5



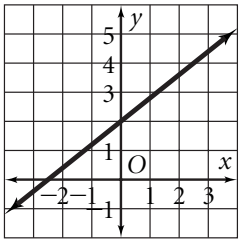
15. 1; -4



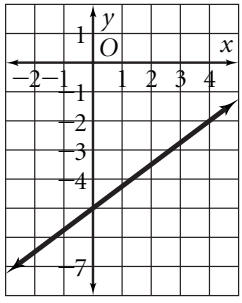
16. -4; 0



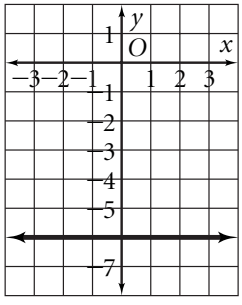
17. $\frac{4}{5}$; 2



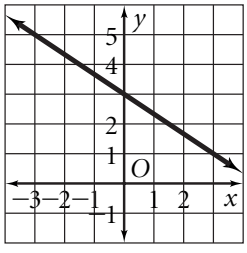
18. $\frac{3}{4}$; -5



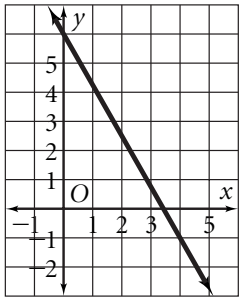
19. 0; -6



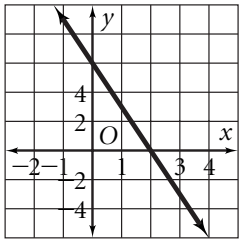
20. $-\frac{2}{3}$; 3



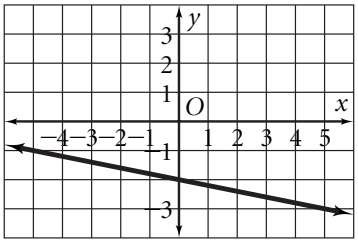
21. $-\frac{7}{4}$; 6



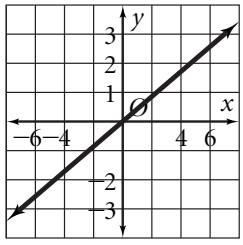
22. -3; 6



23. $-\frac{1}{5}$; -2



24. $\frac{3}{7}$; 0



25. $y = 4x + 8$ **26.** $y = -2x - 6$ **27.** $y = \frac{4}{3}x$

28. $y = -\frac{9}{5}x - 7$ **29.** $y = -6x + 1$ **30.** $y = \frac{3}{7}x - 1$

31. $y = -\frac{1}{5}x - 3$ **32.** $y = 9x + 4$ **33.** $y = -8x + 11$

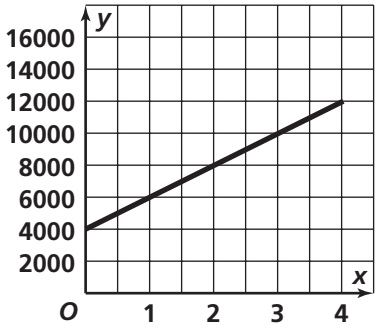
34. $y = \frac{2}{9}x$ **35.** $y = -11x + 13$ **36.** $y = -\frac{7}{2}x - 6$

37. $y = x + 3$ **38.** $y = 3$ **39.** $y = \frac{5}{3}x - 1$

40. $y = -2x + 3$ **41.** $y = 5x - 4$

42. $y = \frac{1}{2}x - 4$ **43a.** $y = 2000x + 4000$

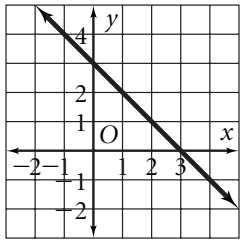
43b.



43c. $12,000

Practice 6-3

1.



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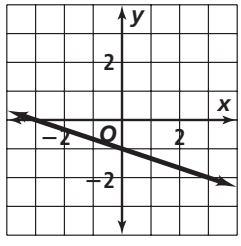

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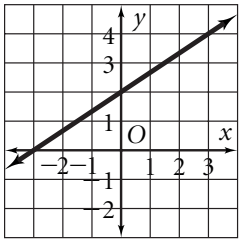

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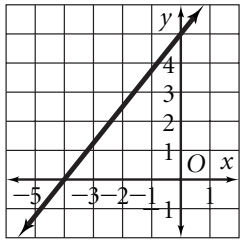

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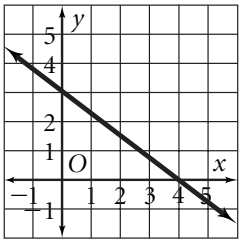

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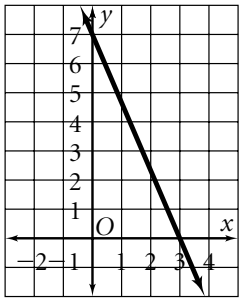

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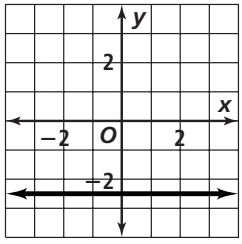

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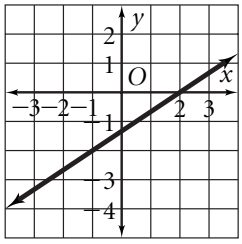

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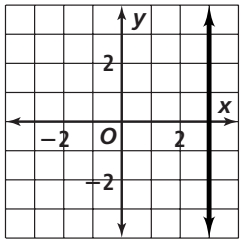

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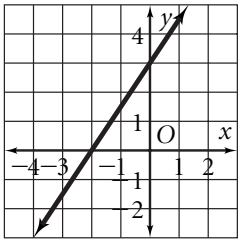

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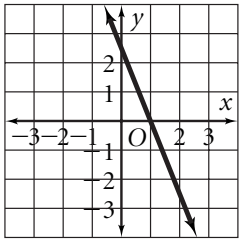

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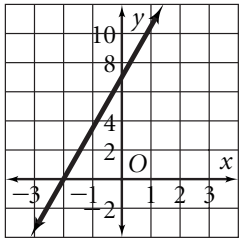

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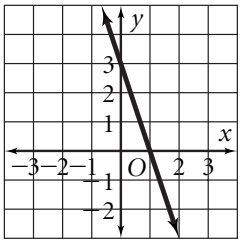

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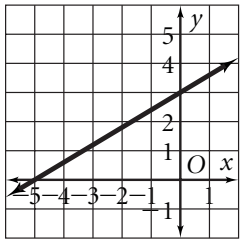

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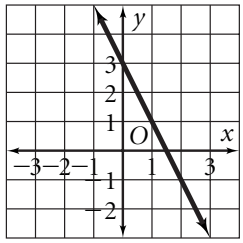

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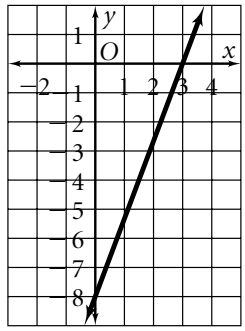

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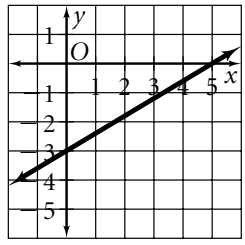

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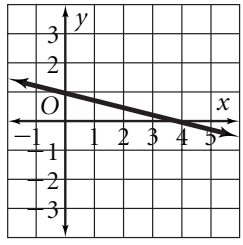
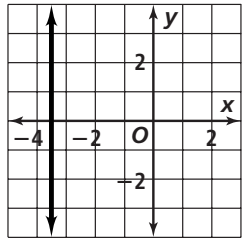


19.



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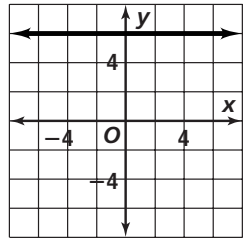
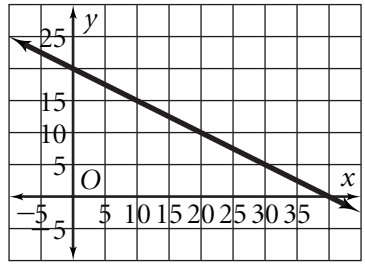


21. $-4x + y = -11$ **22.** $-2x + y = -6$
23. $2x + y = -3$ **24.** $-5x + y = -32$
25. $-2x + 3y = -25$ **26.** $4x + y = 43$
27. $4x + 5y = 6$ **28.** $x + 5y = 0$ **29.** $-5x + 2y = -44$
30. $-7x + 3y = 25$ **31.** $x + 3y = 2$ **32.** $6x + y = -38$
33a. $5x + 10y = 200$

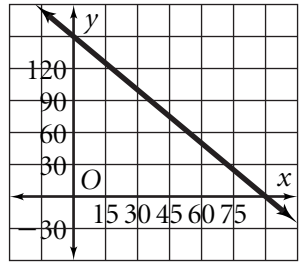
33b.



33c. Answers may vary. Sample: (6 5-lb bags, 17 10-lb bags), or (12 5-lb bags, 14 10-lb bags)

34a. $5x + 3y = 450$

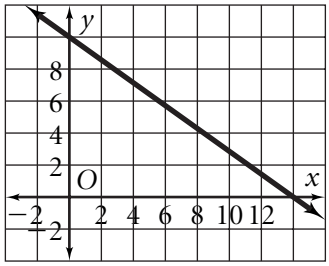
34b.



34c. Answers may vary. Sample: (75 adult, 25 student), (60 adult, 50 student)

35a. $5x + 7y = 70$

35b.



36. $5.99x + 4.99y = 50$

Practice 6-4

Note: One possible form of the answer is given.

1. $y - 8 = x - 6$ **2.** $y - 3 = -1(x + 2)$

3. $y - 8 = 3(x - 3)$ **4.** $y - 3 = 4(x + 2)$

5. $y - 7 = \frac{3}{2}(x - 4)$ **6.** $y + 2 = -\frac{4}{3}(x - 6)$

7. $y - 2 = x + 3$ **8.** $y - 16 = -\frac{5}{2}(x - 6)$

9. $y + 2 = \frac{1}{2}(x + 4)$ **10.** $y - 10 = 3(x - 13)$

11. $y + 7 = -4x$ **12.** $y - 6 = \frac{1}{2}(x - 1)$ **13.** $x = 1$

14. $y - 7 = -\frac{1}{2}(x + 6)$ **15.** $y - 2 = \frac{2}{3}(x - 27)$

16. $y = 5$ **17.** $y - 1 = \frac{1}{2}(x - 14)$

18. $y - 12 = -2(x - 2)$ **19.** $y - 9 = \frac{4}{5}(x + 10)$

20. $y - 2 = \frac{3}{4}(x - 6)$ **21.** $y + 3 = -2(x - 5)$

22. $y - 3.5 = 0.5(x - 4)$ **23.** $y - 2 = \frac{5}{3}(x + 6)$

24. $y - 120 = -\frac{3}{2}(x - 80)$ **25.** $y + 6 = -2(x - 3)$

26. $y - 3 = 2(x - 9)$ **27.** $y - 7 = \frac{5}{2}(x - 2)$

28. $y - 8 = -\frac{5}{3}(x + 9)$ **29.** yes; $y - 3 = 4(x - 2)$

30. no **31.** no **32.** yes; $y - 5 = -2(x + 2)$

33. yes; $y + 5 = \frac{3}{2}(x + 6)$

34. yes; $y - 11 = -\frac{2}{3}(x + 6)$

35. no **36.** yes; $y - 1 = \frac{1}{2}(x + 4)$

37. $y - 1 = \frac{4}{3}(x - 1)$ **38.** $y - 2 = -\frac{3}{2}(x - 1)$

39. $y - 1 = \frac{2}{5}(x - 1)$

Practice 6-5

1. 4 **2.** $\frac{2}{7}$ **3.** -9 **4.** $-\frac{1}{2}$ **5.** -3 **6.** 0 **7.** 1 **8.** $\frac{9}{5}$ **9.** $\frac{1}{3}$

10. $\frac{6}{7}$ **11.** undefined **12.** $-\frac{3}{5}$ **13.** $y = -\frac{1}{3}x + 6$

14. $y = \frac{1}{5}x + 6$ **15.** $y = -6x - 10$ **16.** $y = 4x - 3$

17. $y = -\frac{1}{4}x - 3$ **18.** $y = \frac{3}{4}x - 3$

19. $y = \frac{2}{3}x + 2$ **20.** $y = -\frac{4}{3}x$ **21.** $y = -2x - 1$

22. $y = 2x - 2$ **23.** $y = -4x + 7$ **24.** $y = x - 5$

25. $y = \frac{3}{2}x - 6$ **26.** $y = -\frac{3}{4}x - 10$

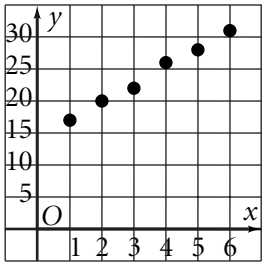
27. $y = -\frac{7}{3}x + 14$ **28.** $y = -\frac{2}{3}x - 4$

29. $y = 5x + 20$ **30.** $y = \frac{1}{4}x + 1$ **31.** parallel

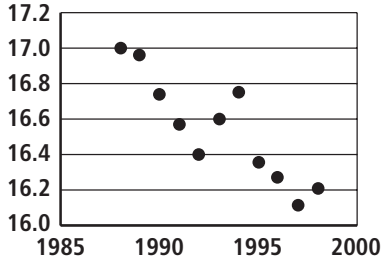
32. perpendicular **33.** neither **34.** neither **35.** parallel
36. perpendicular

Practice 6-6

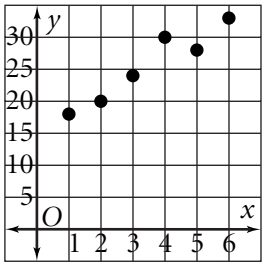
1. Answers may vary. Sample: $y = 30x + 25$
2. not linear
3. Answers may vary. Sample: $y = 15x + 120$
4. $y = -2.6x + 9.6$; -0.8535; yes
5. $y = -3x + 12$; -0.6049; no
6. $y = 0.4223x + 3.9990$; 0.7649; yes
7. $y = -0.2x + 34.8$; -0.0721; no
8. Answers may vary. Sample: $y = 3x + 15$



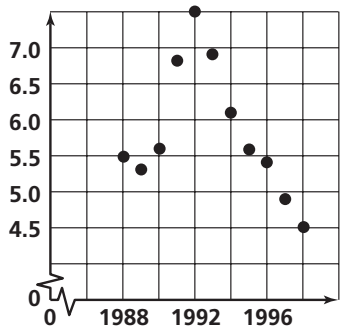
9. Answers may vary. Sample: $y = -0.0857x + 17.3$



10. Answers may vary. Sample: $y = 3x + 15$

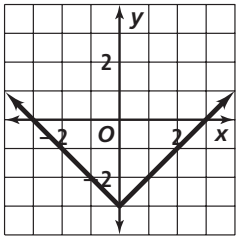


11. Answers may vary. Sample: $y = -0.1x + 15$



Practice 6-7

1.



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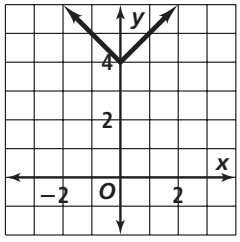

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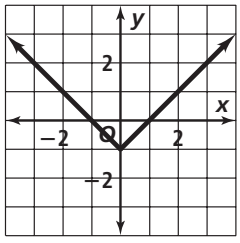

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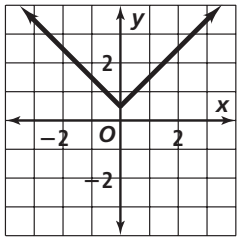

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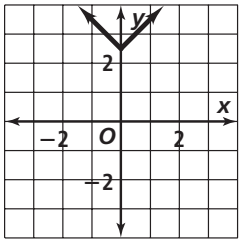

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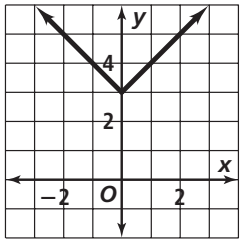

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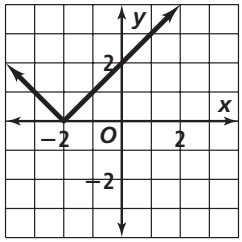

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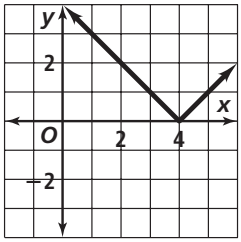

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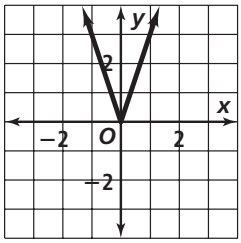

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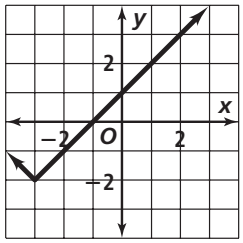

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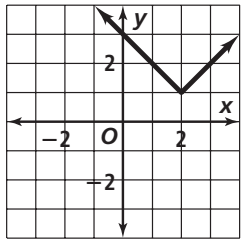

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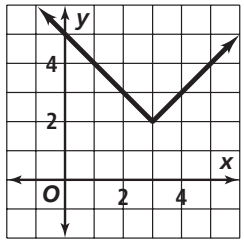

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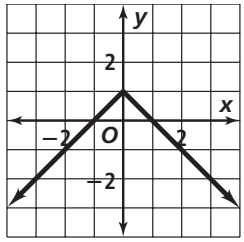

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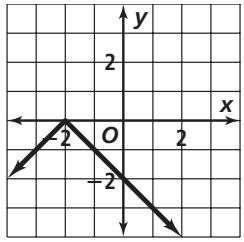

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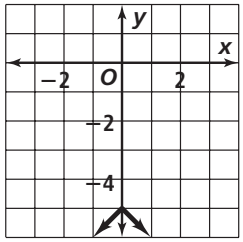

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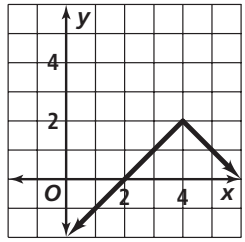

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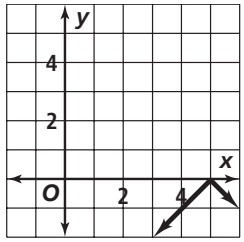

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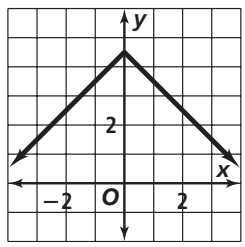

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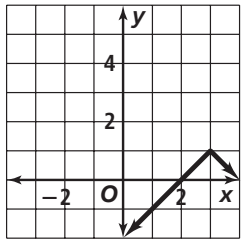

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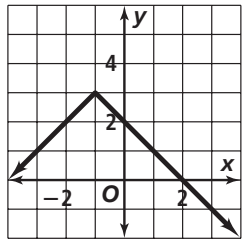

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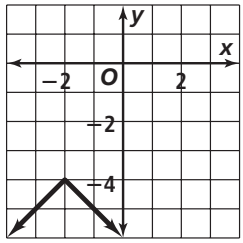


22. $y = |x + 7|$ **23.** $y = |x - 5|$
24. $y = |x| + 6$ **25.** $y = |x - 3| + 2$
26. $y = |x + 1| - 3$ **27.** $y = |x - 2| - 1$
28. $y = |x + 2| + 4$ **29.** $y = |x - 3| + 2$
30. $y = |x + 4| - 3.5$ **31.** $y = -|x| + 3$

32. $y = -|x + 3.5|$ **33.** $y = -|x| - \frac{3}{4}$
34. $y = -|x| - 3$ **35.** $y = -|x - 1| + 2$
36. $y = -|x + 1| - 5$ **37.** $y = -|x - 3| + 2$
38. $y = -|x + 2| - 4$ **39.** $y = -|x - 3| + 4$
40. $y = |3x|$ **41.** $y = -|2x|$ **42.** $y = -|x - 2|$
43. $y = -|x| + 2$

Reteaching 6-1

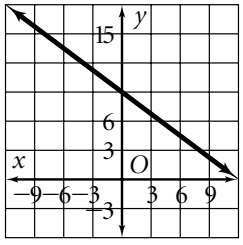
1. 1 **2.** $\frac{1}{2}$ **3.** -4 **4.** 0 **5.** undefined

Reteaching 6-2

1. Check students' work. **2.** Check students' work.
3. $y = 3x + 1$ **4.** $y = -2x + 3$ **5.** $y = x - 1$

Reteaching 6-3

1.



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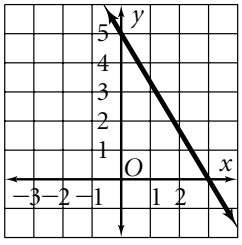

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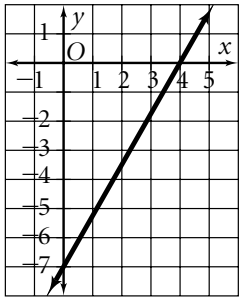

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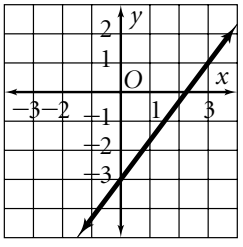

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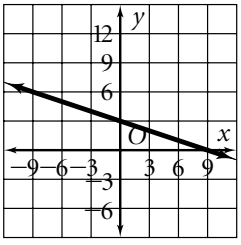

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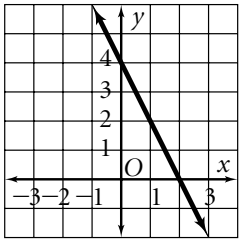


Reteaching 6-4

Note: One possible form of the answer is given.

1. $y - 3 = \frac{1}{2}(x - 4)$ **2.** $y - 2 = 4(x - 5)$
3. $y - 2 = -2(x + 4)$ **4.** $y = 5$ **5.** $y + 5 = x - 2$
6. $y - 3 = 5(x - 4)$ **7.** $y + 1 = -3(x - 2)$
8. $y - 4 = \frac{2}{3}(x + 3)$ **9.** $y + 1 = -\frac{1}{4}(x - 4)$
10. $y = -2$ **11.** $y - 4 = x - 8$ **12.** $y - 1 = \frac{1}{2}(x + 4)$
13. $y + 6 = \frac{2}{3}(x - 6)$ **14.** $y = \frac{7}{8}x$ **15.** $y + 2 = -\frac{1}{2}x$
16. $y - 7 = \frac{3}{2}(x - 2)$ **17.** $y + 10 = 2(x + 1)$
18. $y - 7 = -x$ **19.** $y - 1 = -2x$

Reteaching 6-5

1. $y = 5x - 1; y = -\frac{1}{5}x - 1$

2. $y = -3x + 4; y = \frac{1}{3}x + 4$

3. $y = 2x - 3; y = -\frac{1}{2}x - 3$

4. $y = -\frac{1}{4}x + 2; y = 4x + 2$

5. $y = \frac{1}{2}x - 1; y = -2x - 1$

6. $y = -\frac{1}{2}x + 2; y = 2x + 2$

7. $y = -3x + 2; y = \frac{1}{3}x + 2$

8. $y = \frac{2}{3}x - 2; y = -\frac{3}{2}x - 2$

9. $y = 3x + 6; y = -\frac{1}{3}x + 6$

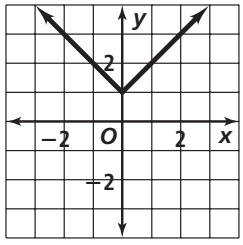
Reteaching 6-6

1. Answers may vary. Sample: $y = -0.075x + 21$
2. Answers may vary. Sample: $y = 4x + 20$
3. Answers may vary. Sample: $y = 0.12x - 1.2$

Reteaching 6-7

1. up 12 units **2.** down 15 units
3. left 13 units **4.** right 15 units

5.



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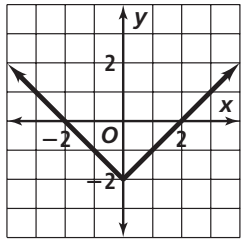

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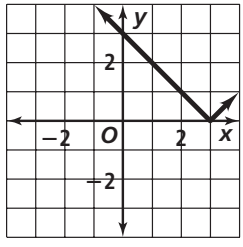

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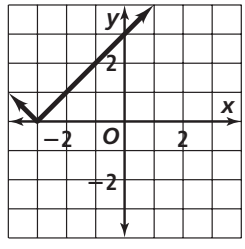


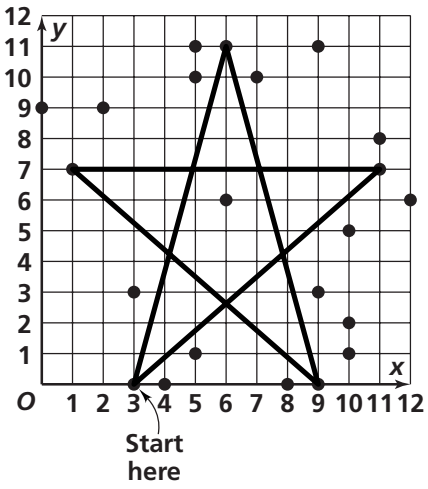
Enrichment 6-1

1. $m = -2$; negative slope

2. $AB = -\frac{1}{2}; BC = 1; CD = -1; AD = \frac{3}{2}$

3. $XY = \frac{4}{7}; YZ = 4; XZ = 0$

4.



Enrichment 6-2

1. Check students' graphs.
2. The graph is a straight line with a slope of $\frac{4}{5}$.
3. approximately 120 mL **4.** $k = 0.80$ **5.** $k = 0.35$
6. A straight line with slope $\frac{7}{20}$, which is less steep than that of gas X.

Enrichment 6-3

Rene Descartes
1. -2 **2.** 19 **3.** -48 **4.** 4 **5.** $\frac{1}{2}$ **6.** $-\frac{9}{5}$ **7.** $-\frac{5}{2}$ **8.** $\frac{7}{2}$

Enrichment 6-4

1. Check students' graphs. **2.** Graph is a straight line. **3.** 2
4. $y - 20 = 2(x - 10); y = 2x$
5. Velocity for each interval $= 2$ m/s
6. The slope is equal to the velocity.
7. $y - 0 = 1(x - 0); y = x$ The slope of the graph for swimmer A is twice that for swimmer B. The steeper the slope, the greater the velocity. A swims faster than B.

Enrichment 6-5

1. parallelogram; rectangle **2.** parallelogram
3. parallelogram; rhombus **4.** none
5. parallelogram; rectangle **6.** parallelogram; rectangle
7. Answers may vary. Sample:
$-5x + 2y = 16; -5x + 2y = -23$
$2x + 7y = 17; 2x + 7y = -22$
8. Answers may vary. Sample:
$-5x + 4y = 30; -5x + 4y = -19$
$x + 9y = 43; x + 9y = -6$
9. Answers may vary. Sample:
$-7x + 2y = 34; -5x + 2y = -35$
$-4x + 11y = -20; -4x + 11y = 49$
10. Answers may vary. Sample:
$3x + 5y = 30; 3x + 5y = -20$
$-7x + 5y = 30; -7x + 5y = -20$
11. Answers may vary. Sample:
$x = -5; x = 3$
$y = 3; y = -3$
12. Answers may vary. Sample:
$y = x; x + y = -8$
$-x + y = 6; x + y = 8$

Enrichment 6-6

Answers may vary. Check students' work.

Enrichment 6-7

1. 2 **2.** 2 **3.** 3 **4.** 3 **5.** 4 **6.** 4 **7.** 3 **8.** 3 **9.** 2 **10.** 2
11. 5 **12.** 5 **13.** 11 **14.** 9 **15.** 13 **16.** 11
17. A → B → D → C → H → G → F → E or
A → E → F → G → H → C → D → B **18.** 23; 24

Chapter Project

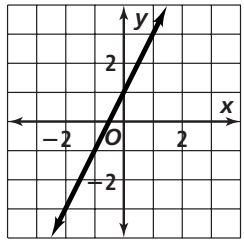
Activity 1: Graphing
Check students' work; Check students' work; The difference in income is represented by the vertical distance between the points on the two graphs corresponding to $x = 8$ hours.

Activity 2: Modeling
$e = 6.35x - 18.75$, where e represents weekly earnings after taxes, benefits, and lunch expenses; The slope represents earnings per hour after taxes and benefits. The y-intercept represents total lunch expenses for a week. Even when working zero hours, the equation assumes that you continue to spend $3.75 per day for lunch; about 21.9 h.

Activity 3: Interviewing
Check students' work.

✔ Checkpoint Quiz 1

1. $-\frac{9}{10}$ **2.** $\frac{3}{4}$ **3.** -4 **4.** -1
5. $-87{,}500$ gal/h
6.



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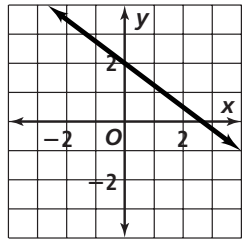

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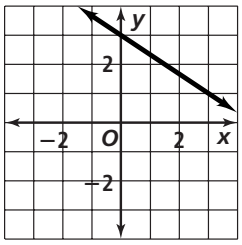

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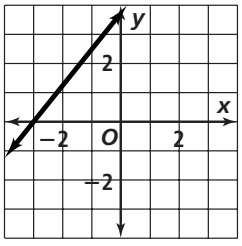


10. Answers may vary. Sample: A rate of change that is positive will increase over time. A rate of change that is negative will decrease. Positive rate of change occurs if the number of subscribers to a newspaper increases. Negative rate of change occurs if the annual sales for a local department store drops over the last 6 months.

✔ Checkpoint Quiz 2

1. $y = \frac{1}{5}x - 1$ **2.** $y = -5x - 37$ **3.** $x = -4$

4. $y = -\frac{5}{2}x - 3$ **5.** $y = -5x - 18$ **6.** $y = \frac{3}{8}x + \frac{11}{8}$

7. $y = 2x + 4$ **8.** $y = -\frac{7}{3}x + \frac{19}{3}$

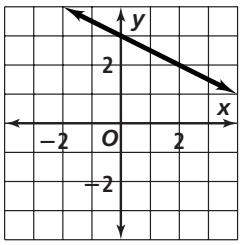
9. $y = -1.6788x + 504.25$

Chapter Test, Form A

1. false: can be positive, negative, undefined or zero

2. false; undefined **3.** 3 **4.** $-\frac{3}{2}$

5.



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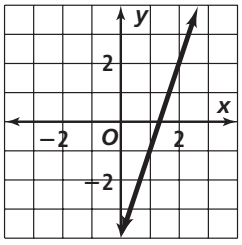
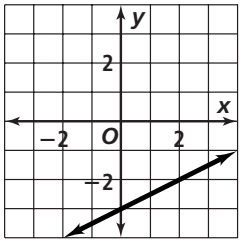
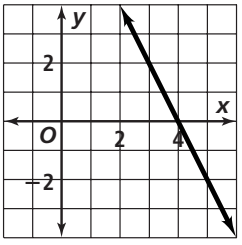


7.



8.



9. $y = \frac{2}{3}x - 3$ **10.** $y = \frac{1}{4}x + 5$ **11.** $y = -\frac{2}{3}x + 3$

12. $y = \frac{7}{3}x + 4$ **13.** $(0, 2); (4, 0)$ **14.** $(0, -8); \left(\frac{24}{5}, 0\right)$

15. $(0, 12); (-6, 0)$ **16.** $(0, -5); (5, 0)$ **17.** $y + 2 = \frac{1}{4}x$

18. $y - 1 = -2x$ **19.** $y - 2 = -\frac{7}{6}x$

20. $y + 3 = -\frac{8}{3}(x - 3)$ **21.** $y = -2x + 7$

22. $y = -\frac{2}{7}x - \frac{4}{7}$ **23.** $y = -4$ **24.** $y = \frac{3}{5}x + \frac{4}{5}$

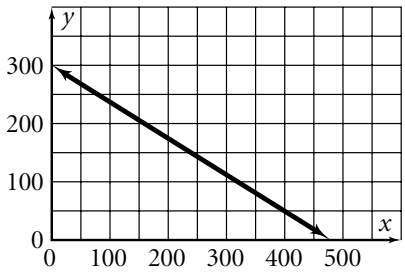
25a. neither **25b.** parallel **25c.** perpendicular **25d.** neither

26. $y = -\frac{1}{2}x + \frac{7}{2}$ **27.** $x = -7$ **28.** $y = -\frac{1}{4}x + \frac{1}{4}$

29. $x = 4$

30a. $0.5x + 0.8y = 240$

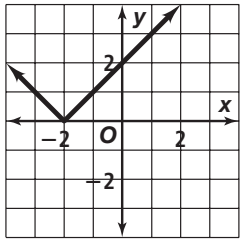
30b. ; $(0, 300), (480, 0)$



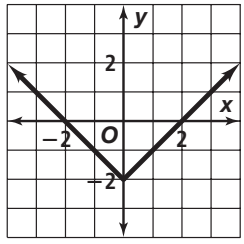
30c. Answers may vary. Sample: 320 tea, 100 lemonade; 240 tea, 150 lemonade; 200 tea, 175 lemonade

31. $y = |x| + 3$ **32.** $y = |x + 2|$

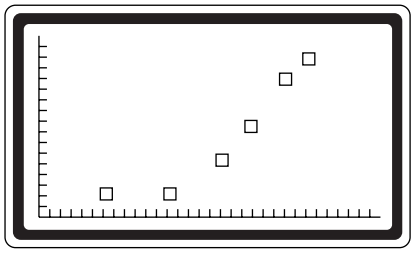
33.



34.



35a. Calculator screens may vary. Sample:

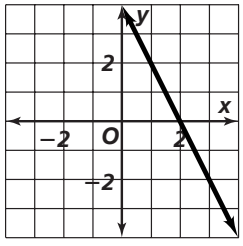


35b. $y = 0.6104x - 37.37$, where x represents the number of years since 1900 **35c.** 27%

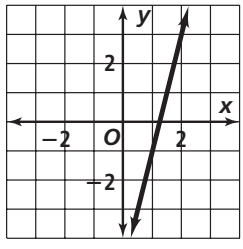
Chapter Test, Form B

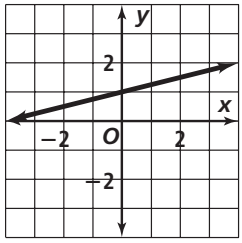
1. false; the rate of change is slope **2.** true **3.** 17 **4.** $\frac{1}{10}$

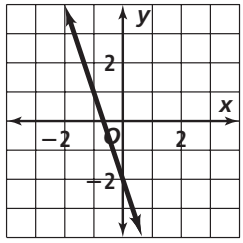
5.



6.



7. 

8. 

9. $y = -\frac{4}{5}x + 4$ **10.** $y = \frac{1}{5}x + 3$ **11.** $y = -\frac{1}{2}x + 2$

12. $y = \frac{8}{5}x + \frac{16}{5}$ **13.** $(0, 3); (6, 0)$ **14.** $(0, 4); \left(\frac{8}{7}, 0\right)$

15. $(0, 4); (-6, 0)$ **16.** $(0, 3); (3, 0)$ **17.** $y - 2 = \frac{2}{3}(x - 1)$

18. $y - 3 = -x$ **19.** $y - 4 = -\frac{1}{4}(x + 1)$

20. $y + 3 = -\frac{5}{7}(x - 7)$ **21.** $y = -\frac{1}{4}x + \frac{13}{4}$

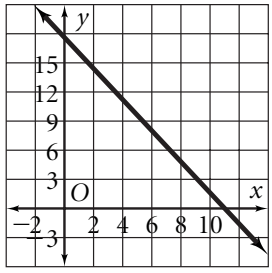
22. $y = 4x - 2$ **23.** $y = 2$ **24.** $y = -10x + 38$

25a. parallel **25b.** neither **25c.** neither **25d.** perpendicular

26. $y = -\frac{2}{3}x - 3$ **27.** $y = -7$ **28.** $y = \frac{1}{2}x - \frac{11}{2}$

29. $y = -2$

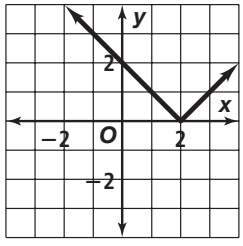
30a. $200x + 125y = 2200$

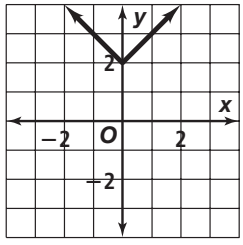
30b. 

; $(11, 0), \left(0, \frac{88}{5}\right)$

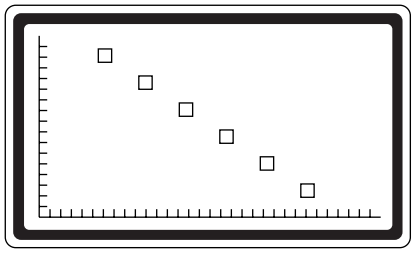
30c. Answers may vary. Sample: 7 nights in hotel, 6 nights camping

31. $y = |x| - 3$ **32.** $y = |x - 2|$

33. 

34. 

35a. Calculator screens may vary. Sample:



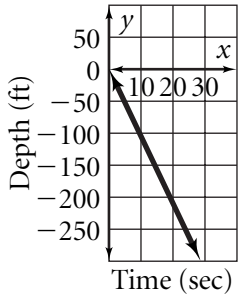
35b. $y = -0.04x + 5.5$ **35c.** 2.3 mm

Alternative Assessment, Form C

TASK 1 Scoring Guide:

a. Answers may vary. Graphs should be: positive slope—a line that goes upward from left to right; negative slope—a line that goes downward from left to right; slope equal to zero—a horizontal line; undefined slope—a vertical line.

b. Check students' work.

c. 

d. $y = -1.64x + 248$

3 All parts of the task are complete. Graphs are drawn and labeled correctly. All computations are correct.

2 All parts of the task are complete. There are minor errors in construction and labeling of graphs. Computations are mostly correct.

1 Some parts of the task are missing. There are errors in construction and labeling of graphs. Computations are incorrect.

0 Student makes no attempt, or no response is given.

TASK 2 Scoring Guide:

a. The slope is \$45 per hour, and the *y*-intercept is the initial charge of \$85.

b. The fixed cost equation is linear because the increase per hour is the same.

c. The rate of change is \$45 per hour. This is the slope of the line.

3 Shows a clear understanding of the concepts of rate of change, slope and *y*-intercept. Understands that the slope and rate of change are the same. Can identify the slope and *y*-intercept. Written explanations are exemplary. Computations are correct.

2 Shows an understanding of the concepts of rate of change, slope and *y*-intercept. Understands that the slope and rate of change are the related but explanation is lacking in clarity. Can identify the slope and *y*-intercept. Computations are correct.

1 Shows an understanding of most of the concepts related to slope and y-intercept. Written explanations are satisfactory. Can identify the slope and *y*-intercept with minor errors.

0 Student makes no attempt, or no response is given.

TASK 3 Scoring Guide:

a-d. Answers may vary. They should include the following details:

a. If you know the slope and *y*-intercept, to write an equation you need to substitute the values for m and b into the slope-intercept form of the line, $y = mx + b$. In this case, $m = \frac{3}{2}, b = 3$, so the equation is $y = \frac{3}{2}x + 3$.

b. If you know the slope and point through which the line passes, use the point-slope form $y - y_1 = m(x - x_1)$. In the given case, the line passes through $(-4, -3)$ and has slope $\frac{3}{2}$. Therefore, the equation is $y + 3 = \frac{3}{2}(x + 4)$. This can be further simplified and reduced to the point-slope form $y = \frac{3}{2}x + 3$.

c. If two points are known, you can solve for m, then follow steps in part b by using either one of the given points to write the equation in point-slope form. Or you can plot the graph by using the two points and calculate the slope and *y*-intercept from the graph to express the equation in slope-intercept form.

d. Calculate slope, use *y*-intercept, and substitute into slope-intercept equation.

e. $-3x + 2y = 6$

f. Answers may vary.

3 All parts of the task are complete. Discussion of procedure is correct and contains all necessary details. All calculations are correct.

2 All parts of the task are complete. Discussion is not thorough enough to explain procedure. Part of the explanation is incorrect. Calculations contain minor errors.

1 Some parts of the task are missing. Discussion is inadequate to explain steps, or steps are incorrect. Calculations are incorrect.

0 Student makes no attempt, or no response is given.

TASK 4 Scoring Guide:

a. $\frac{1}{2}; \frac{1}{2}; -2$

b. $y = \frac{1}{2}x + 1; y = \frac{1}{2}x - 1; y = -2x - 2$

c. If two lines are parallel, then their slopes must be the same. Lines are perpendicular when the product of their slopes is -1.

d. Check students' work.

3 All parts of the task are complete. Slopes and equations are written correctly with correct explanation for parallel and perpendicular lines.

2 All parts of the task are complete. Equations and slopes are written correctly, but the explanations are not precise.

1 Some parts or the task are missing. There are major discrepancies in calculating slopes and equations.

0 Student makes no attempt, or no response is given.

Cumulative Review

1. D **2.** D **3.** B **4.** D **5.** B **6.** A **7.** C **8.** B **9.** A
10. D **11.** A **12.** D **13.** D **14.** C **15.** B **16.** A **17.** A
18. $58.45 **19.** 2700 trees **20.** 487.5 mi **21.** 7 h **22.** 3
23. Check students' work. **24.** 21