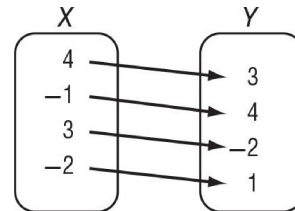
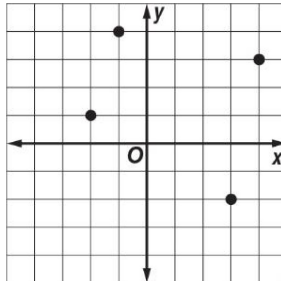


1-6 Practice

Relations

1. Express $\{(4, 3), (-1, 4), (3, -2), (-2, 1)\}$ as a table, a graph, and a mapping. Then determine the domain and range.

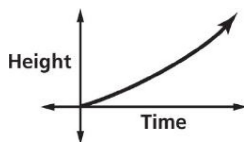
x	y
4	3
-1	4
3	-2
-2	1



$$D = \{-2, -1, 3, 4\}; R = \{-2, 1, 3, 4\}$$

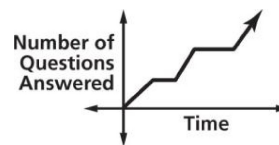
Describe what is happening in each graph.

2. The graph below represents the height of a tsunami as it travels across an ocean.



The longer it travels, the higher the tsunami becomes.

3. The graph below represents a student taking an exam.



The student repeatedly answers questions and then pauses.

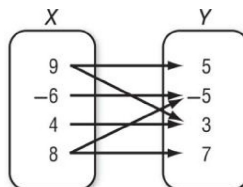
Express the relation shown in each table, mapping, or graph as a set of ordered pairs.

4.

X	Y
0	9
-8	3
2	-6
1	4

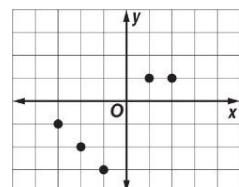
$$\{(0, 9), (-8, 3), (2, -6), (1, 4)\}$$

5.



$$\{(9, 5), (9, 3), (-6, -5), (4, 3), (8, -5), (8, 7)\}$$

6.



$$\{(-3, -1), (-2, -2), (-1, -3), (1, 1), (2, 1)\}$$

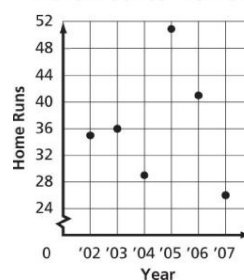
7. **BASEBALL** The graph shows the number of home runs hit by Andruw Jones of the Atlanta Braves. Express the relation as a set of ordered pairs. Then describe the domain and range.

$$\{('02, 35), ('03, 36), ('04, 29), ('05, 51), ('06, 41), ('07, 26)\};$$

$$D = \{'02, '03, '04, '05, '06, '07\};$$

$$R = \{26, 29, 35, 36, 41, 51\}$$

Andruw Jones' Home Runs



2-8 Practice

Literal Equations and Dimensional Analysis

Solve each equation or formula for the variable indicated.

1. $d = rt$, for r $r = \frac{d}{t}$; $t \neq 0$
2. $6w - y = 2z$, for w $w = \frac{2z + y}{6}$
3. $mx + 4y = 3t$, for x $x = \frac{3t - 4y}{m}$; $m \neq 0$
4. $9s - 5g = -4u$, for s $s = \frac{-4u + 5g}{9}$
5. $ab + 3c = 2x$, for b $b = \frac{2x - 3c}{a}$; $a \neq 0$
6. $2p = kx - t$, for x $x = \frac{2p + t}{k}$; $k \neq 0$
7. $\frac{2}{3}m + a = a + r$, for m $m = \frac{3}{2}r$
8. $\frac{2}{5}h + g = d$, for h $h = \frac{5}{2}(d - g)$
9. $\frac{2}{3}y + v = x$, for y $y = \frac{3}{2}(x - v)$
10. $\frac{3}{4}a - q = k$, for a $a = \frac{4}{3}(k + q)$
11. $\frac{rx + 9}{5} = h$, for x $x = \frac{5h - 9}{r}$; $r \neq 0$
12. $\frac{3b - 4}{2} = c$, for b $b = \frac{2c + 4}{3}$
13. $2w - y = 7w - 2$, for w $w = \frac{2 - y}{5}$
14. $3\ell + y = 5 + 5\ell$, for ℓ $\ell = \frac{y - 5}{2}$

15. ELECTRICITY The formula for Ohm's Law is $E = IR$, where E represents voltage measured in volts, I represents current measured in amperes, and R represents resistance measured in ohms.

a. Solve the formula for R . $R = \frac{E}{I}$

b. Suppose a current of 0.25 ampere flows through a resistor connected to a 12-volt battery. What is the resistance in the circuit? **48 ohms**

16. MOTION In *uniform circular motion*, the speed v of a point on the edge of a spinning disk is $v = \frac{2\pi}{t}r$, where r is the radius of the disk and t is the time it takes the point to travel once around the circle.

a. Solve the formula for r . $r = \frac{tv}{2\pi}$

b. Suppose a merry-go-round on a playground is spinning once every 3 seconds. If a point on the outside edge has a speed of 12.56 feet per second, what is the radius of the merry-go-round? (Use 3.14 for π .) **6 ft**

17. HIGHWAYS Interstate 90 is the longest interstate highway in the United States, connecting the cities of Seattle, Washington and Boston, Massachusetts. The interstate is 4,987,000 meters in length. If 1 mile = 1.609 kilometers, how many miles long is Interstate 90? **about 3099 mi**

2-5 Practice

Solving Equations Involving Absolute Value

Evaluate each expression if $x = -1$, $y = 3$, and $z = -4$.

1. $16 - |2z + 1|$ **9**

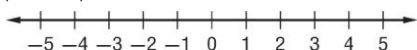
2. $|x - y| + 4$ **8**

3. $|-3y + z| - x$ **14**

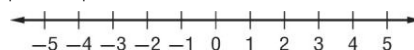
4. $3|z - x| + |2 - y|$ **10**

Solve each equation. Then graph the solution set.

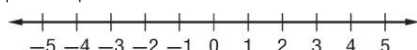
5. $|2z - 9| = 1$ **{4, 5}**



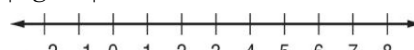
6. $|3 - 2r| = 7$ **{-2, 5}**



7. $|3t + 6| = 9$ **{-5, 1}**



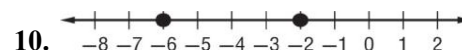
8. $|2g - 5| = 9$ **{-2, 7}**



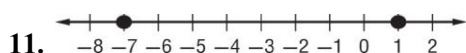
Write an equation involving absolute value for each graph.



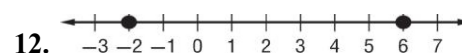
9. **$|x - 6| = 5$**



10. **$|x + 4| = 2$**



11. **$|x + 3| = 4$**



12. **$|x - 2| = 4$**

13. **FITNESS** Taisha uses the elliptical cross-trainer at the gym. Her general goal is to burn 280 Calories per workout, but she varies by as much as 25 Calories from this amount on any given day. Write and solve an equation to find the maximum and minimum number of Calories Taisha burns on the cross-trainer.

$|c - 280| = 25$; min = 255 Calories; max = 305 Calories

14. **TEMPERATURE** A thermometer is guaranteed to give a temperature no more than 1.2°F from the actual temperature. If the thermometer reads 28°F , write and solve an equation to find the maximum and minimum temperatures it could be.

$|t - 28| = 1.2$; min = 26.8°F ; max = 29.2°F



Example 1

Determine whether each equation is a linear equation. Write *yes* or *no*. If yes, write the equation in standard form.

1. $x = y - 5$
yes; $x - y = -5$

2. $-2x - 3 = y$
yes; $2x + y = -3$

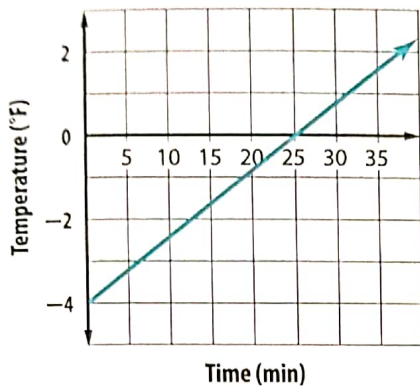
3. $-4y + 6 = 2$
yes; $y = 1$

4. $\frac{2}{3}x - \frac{1}{3}y = 2$
yes; $2x - y = 6$

Examples 2-3

Find the x - and y -intercepts of the graph of each linear function. Describe what the intercepts mean.

5. **Increasing Temperature**



6.

Position of Scuba Diver	
Time (s)	Depth (m)
x	y
0	-24
3	-18
6	-12
9	-6
12	0

6. 12, -24; The x -intercept 12 means that after 12 seconds, the scuba diver is at a depth of 0 meters, or at the surface. The y -intercept -24 means that at time 0, the scuba diver is at a depth of -24 meters, or 24 meters below sea level.

Example 4

Graph each equation by using the x - and y -intercepts.

7. $y = 4 + x$

8. $2x - 5y = 1$

5. 25, -4; The x -intercept 25 means that after 25 minutes, the temperature is 0°F. The y -intercept -4 means that at time 0, the temperature is -4°F.

7-8. See Ch. 3 Answer Appendix.

Example 5

Graph each equation by making a table. 9-11. See Ch. 3 Answer Appendix.

9. $x + 2y = 4$

10. $-3 + 2y = -5$

11. $y = 3$

12. **CCSS REASONING** The equation $5x + 10y = 60$ represents the number of children x and adults y who can attend the rodeo for \$60.

a. Use the x - and y -intercepts to graph the equation. See margin.

b. Describe what these values mean.

The x -intercept means that 12 children and 0 adults can attend for \$60.

The y -intercept means that 0 children and 6 adults can attend for \$60.



Practice and Problem Solving

Extra Practice is on page R3.

Example 1

Determine whether each equation is a linear equation. Write *yes* or *no*. If yes, write the equation in standard form.

13. $5x + y^2 = 25$ *no*

14. $8 + y = 4x$ *yes; $4x - y = 8$*

15. $9xy - 6x = 7$ *no*

16. $4y^2 + 9 = -4$ *no*

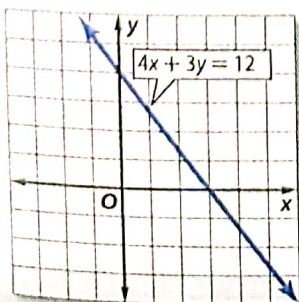
17. $12x = 7y - 10y$
yes; $4x + y = 0$

18. $y = 4x + x$ *yes; $5x - y = 0$*

Example 2

Find the x - and y -intercepts of the graph of each linear function.

19.



3, 4

20.

x	y
-3	-1
-2	0
-1	1
0	2
1	3

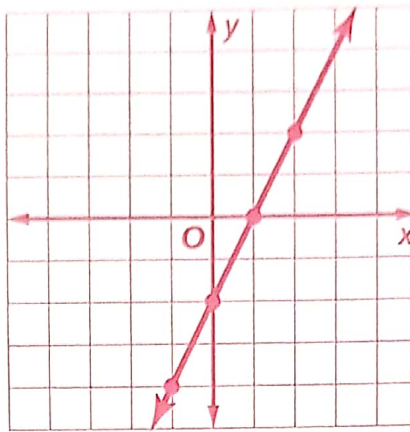
-2, 2



Additional Answers (Guided Practice)

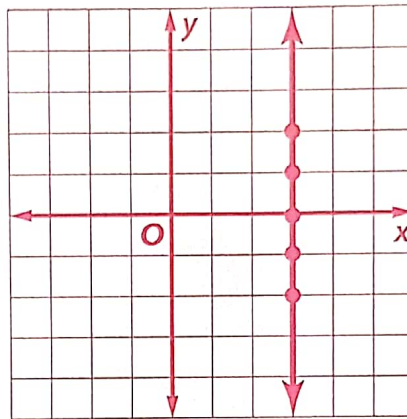
5A.

x	y
-2	-6
-1	-4
0	-2
1	0
2	2



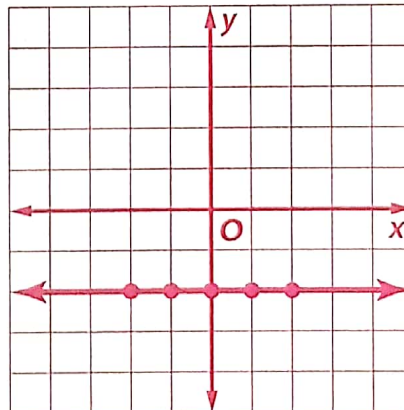
5B.

x	y
3	-2
3	-1
3	0
3	1
3	2



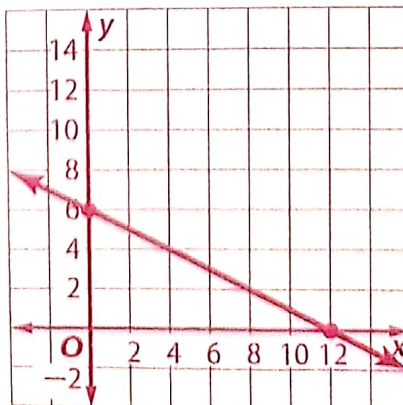
5C.

x	y
-2	-2
-1	-2
0	-2
1	-2
2	-2



Additional Answer

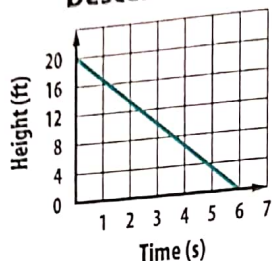
12a.



Example 3

Find the x - and y -intercepts of each linear function. Describe what the intercepts mean.

21. Descent of Eagle



6, 20; The x -intercept represents the number of seconds that it takes the eagle to land. The y -intercept represents the initial height of the eagle.

22.

Eva's Distance from Home	
Time (min)	Distance (mi)
x	y
0	4
2	3
4	2
6	1
8	0

8, 4; The x -intercept 8 means that it took Eva 8 minutes to get home. The y -intercept 4 means that Eva was initially 4 miles from home.

Example 4

Graph each equation by using the x - and y -intercepts. 23–28. See margin.

23. $y = 4 + 2x$

24. $5 - y = -3x$

25. $x = 5y + 5$

26. $x + y = 4$

27. $x - y = -3$

28. $y = 8 - 6x$

Example 5

Graph each equation by making a table. 29–34. See Chapter 3 Answer Appendix.

29. $x = -2$

30. $y = -4$

31. $y = -8x$

32. $3x = y$

33. $y - 8 = -x$

34. $x = 10 - y$

35. TV RATINGS The number of people who watch a singing competition can be given by $p = 0.15v$, where p represents the number of people in millions who saw the show and v is the number of potential viewers in millions.

a. Make a table of values for the points (v, p) .

b. Graph the equation.

c. Use the graph to estimate the number of people who saw the show if there are 14 million potential viewers. **≈ 2.1 million**

d. Explain why it would not make sense for v to be a negative number.

There cannot be fewer than 0 viewers.

35a–b. See Chapter 3 Answer Appendix.

Determine whether each equation is a linear equation. Write *yes* or *no*. If *yes*, write the equation in standard form. 38. **yes; $6m - 7n = -4$**

B 36. $x + \frac{1}{y} = 7$ **no**

37. $\frac{x}{2} = 10 + \frac{2y}{3}$ **yes; $3x - 4y = 60$**

38. $7n - 8m = 4 - 2m$

39. $3a + b - 2 = b$ **yes; $3a = 2$**

40. $2r - 3rt + 5t = 1$ **no**

41. $\frac{3m}{4} = \frac{2n}{3} - 5$ **yes; $9m - 8n = -60$**

42. FINANCIAL LITERACY James earns a monthly salary of \$1200 and a commission of \$125 for each car he sells.

a. Graph an equation that represents how much James earns in a month in which he sells x cars. **See Chapter 3 Answer Appendix.**

b. Use the graph to estimate the number of cars James needs to sell in order to earn \$5000. **about 30 cars**

Graph each equation. 43–48. See Chapter 3 Answer Appendix.

43. $2.5x - 4 = y$

44. $1.25x + 7.5 = y$

45. $y + \frac{1}{5}x = 3$

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

47. $2x - 3 = 4y + 6$

48. $3y - 7 = 4x + 1$

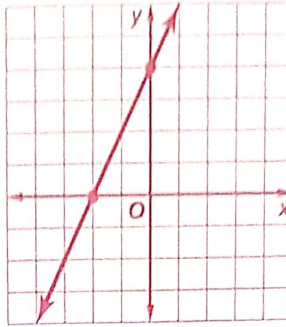
49. CCSS REASONING Mrs. Johnson is renting a car for vacation and plans to drive a total of 800 miles. A rental car company charges \$153 for the week including 700 miles and \$0.23 for each additional mile. If Mrs. Johnson has only \$160 to spend on the rental car, can she afford to rent a car? Explain your reasoning.

49. No; sample answer: The rental car would cost \$176. Mrs. Johnson has only \$160 to spend.

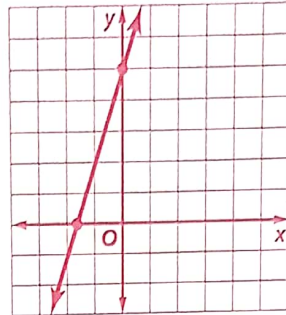


Additional Answers

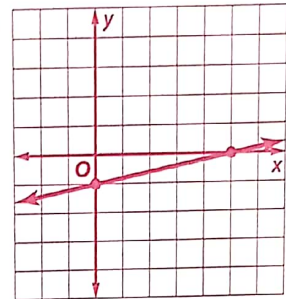
23.



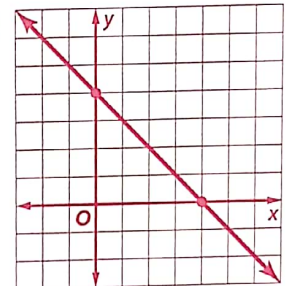
24.



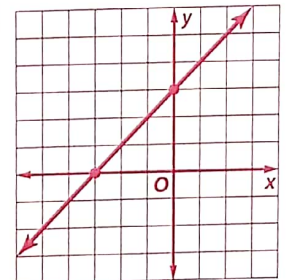
25.



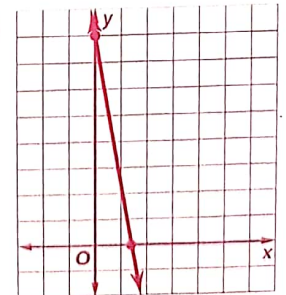
26.



27.



28.



59.



50. Admission to the amusement park charges \$50 for admission before 6 P.M. and \$20 for admission after 6 P.M. On Saturday, the park took in a total of \$20,000.
- Write an equation that represents the number of admissions that may have been sold. Let x represent the admissions sold before 6 P.M., and let y represent the admissions sold after 6 P.M. $20,000 = 50x + 20y$
 - Graph the equation. **b–c. See Chapter 3 Answer Appendix.**
 - Find the x - and y -intercepts of the graph. What does each intercept represent?

Find the x -intercept and y -intercept of the graph of each equation.

51. $5x + 3y = 15$ **3; 5** 52. $2x - 7y = 14$ **7; -2** 53. $2x - 3y = 5$ **$2\frac{1}{2}$; $-1\frac{2}{3}$**
54. $6x + 2y = 8$ **$1\frac{1}{3}$; 4** 55. $y = \frac{1}{4}x - 3$ **12; -3** 56. $y = \frac{2}{3}x + 1$ **$-1\frac{1}{2}$; 1**

57. **ONLINE GAMES** The percent of teens who play online games can be modeled by $p = \frac{15}{4}t + 66$. p is the percent of students, and t represents time in years since 2000.

- Graph the equation. **See Chapter 3 Answer Appendix.**
- Use the graph to estimate the percent of students playing the games in 2008. **96%**



58. **MULTIPLE REPRESENTATIONS** In this problem, you will explore x - and y -intercepts of graphs of linear equations.

58c. Lines that are neither vertical or horizontal cannot have more than one x - and/or y -intercept.

- Graphical** If possible, use a straightedge to draw a line on a coordinate plane with each of the following characteristics. **See Chapter 3 Answer Appendix.**

x - and y -intercept	x -intercept, no y -intercept	exactly 2 x -intercepts	no x -intercept, y -intercept	exactly 2 y -intercepts
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- Analytical** For which characteristics were you able to create a line and for which characteristics were you unable to create a line? Explain.
- Verbal** What must be true of the x - and y -intercepts of a line?

58b. Sample answer: I was able to draw a line with an x - and a y -intercept, an x -intercept and no y -intercept, and no x -intercept and a y -intercept. I was unable to draw a line with 2 x -intercepts or 2 y -intercepts

H.O.T. Problems Use Higher-Order Thinking Skills

59. **CCSS REGULARITY** Copy and complete each table. State whether any of the tables show a linear relationship. Explain. **See margin for explanation.**

Perimeter of a Square	
Side Length	Perimeter
1	4
2	8
3	12
4	16

Area of a Square	
Side Length	Area
1	1
2	4
3	9
4	16

Volume of a Cube	
Side Length	Volume
1	1
2	8
3	27
4	64

61. Sample answer: $y = 8$; horizontal line

62. Sample answer: $x = 5$; vertical line

63. Sample answer: $x - y = 0$; line through (0, 0)

60. **REASONING** Compare and contrast the graphs of $y = 2x + 1$ with the domain $\{1, 2, 3, 4\}$ and $y = 2x + 1$ with the domain of all real numbers. **See Chapter 3 Answer Appendix.**

OPEN ENDED Give an example of a linear equation of the form $Ax + By = C$ for each condition. Then describe the graph of the equation.

61. $A = 0$

62. $B = 0$

63. $C = 0$

64. **WRITING IN MATH** Explain how to find the x -intercept and y -intercept of a graph and summarize how to graph a linear equation. **See Chapter 3 Answer Appendix.**

1. $-2x + 6 = 0$ **3**

2. $-x - 3 = 0$ **-3**

3. $4x - 2 = 0$ **$\frac{1}{2}$**

4. $9x + 3 = 0$ **$-\frac{1}{3}$**

5. $2x - 5 = 2x + 8$ **no solution**

6. $4x + 11 = 4x - 24$ **no solution**

7. $3x - 5 = 3x - 10$ **no solution**

8. $-6x + 3 = -6x + 5$ **no solution**

Example 3

9. **NEWSPAPERS** The function $w = 30 - \frac{3}{4}n$ represents the weight w in pounds of the papers in Tyrone's newspaper delivery bag after he delivers n newspapers. Find the zero and explain what it means in the context of this situation.
Tyrone must deliver 40 newspapers for the papers in his bag to weigh 0 pounds.

Practice and Problem Solving

Extra Practice is on page R

12. **no solution** 13. **no solution** 17. **no solution** 18. **no solution**
Solve each equation by graphing. Verify your answer algebraically.

10. $0 = x - 5$ **5**

11. $0 = x + 3$ **-3**

12. $5 - 8x = 16 - 8x$

13. $3x - 10 = 21 + 3x$

14. $4x - 36 = 0$ **9**

15. $0 = 7x + 10$ **$-\frac{10}{7}$ or $-1\frac{3}{7}$**

16. $2x + 22 = 0$ **-11**

17. $5x - 5 = 5x + 2$

18. $-7x + 35 = 20 - 7x$

19. $-4x - 28 = 3 - 4x$
no solution

20. $0 = 6x - 8$ **$\frac{4}{3}$ or $1\frac{1}{3}$**

21. $12x + 132 = 12x - 100$
no solution

Example 3

22. **TEXTING** Sean is sending texts to his friends. The function $y = 160 - x$ represents the number of characters y the message can hold after he has typed x characters. Find the zero and explain what it means in the context of this situation. **See margin.**
23. **GIFT CARDS** For her birthday Kwan receives a \$50 gift card to download songs. The function $m = -0.50d + 50$ represents the amount of money m that remains on the card after a number of songs d are downloaded. Find the zero and explain what it means in the context of this situation. **100; She can download a total of 100 songs before the gift card is completely used.**

B Solve each equation by graphing. Verify your answer algebraically.

24. $-7 = 4x + 1$ **-2**

25. $4 - 2x = 20$ **-8**

26. $2 - 5x = -23$ **5**

27. $10 - 3x = 0$ **$\frac{10}{3}$ or $3\frac{1}{3}$**

28. $15 + 6x = 0$ **$-\frac{5}{2}$ or $-2\frac{1}{2}$**

29. $0 = 13x + 34$ **$-\frac{34}{13}$ or $-2\frac{8}{13}$**

30. $0 = 22x - 10$ **$\frac{5}{11}$**

31. $25x - 17 = 0$ **$\frac{17}{25}$**

32. $0 = \frac{1}{2} + \frac{2}{3}x$ **$-\frac{3}{4}$**

33. $0 = \frac{3}{4} - \frac{2}{5}x$ **$\frac{15}{8}$ or $1\frac{7}{8}$**

34. $13x + 117 = 0$ **-9**

35. $24x - 72 = 0$ **3**

36. **SEA LEVEL** Parts of New Orleans lie 0.5 meter below sea level. After d days of rain the equation $w = 0.3d - 0.5$ represents the water level w in meters. Find the zero, and explain what it means in the context of this situation. **See margin.**



37. **CCSS MODELING** An artist completed an ice sculpture when the temperature was -10°C . The equation $t = 1.25h - 10$ shows the temperature h hours after the sculpture's completion. If the artist completed the sculpture at 8:00 A.M., at what time will it begin to melt? **4:00 P.M.**

38–43. See Chapter 3 Answer Appendix for graphs.

Solve each equation by graphing. Verify your answer algebraically.

38. $7 - 3x = 8 - 4x$ **1**

39. $19 + 3x = 13 + x$ **-3**

40. $16x + 6 = 14x + 10$ **2**

41. $15x - 30 = 5x - 50$ **-2**

42. $\frac{1}{2}x - 5 = 3x - 10$ **2**

43. $3x - 11 = \frac{1}{3}x - 8$ **$\frac{9}{8}$ or $1\frac{1}{8}$**



Additional Answers

22. 160; The text message is full after Sean has typed 160 characters.
36. $d \approx 1.67$; The water level in New Orleans has reached sea level after about 1.67 days of rain.
48. Sample answer: It is better to solve an equation algebraically if an exact answer is needed. It is better to solve graphically if an exact answer is not needed.
50. Sample answer: To solve a linear equation algebraically, solve the equation for x . To solve a linear equation graphically, find the related function by setting the equation equal to zero. Then, make a table and choose different values for x and find the corresponding y -coordinate. Determine where the graph intersects the x -axis. This is the solution. If the graph does not intersect the x -axis, there is no solution.

44. **HAIR PRODUCTS** Chemical hair straightening makes curly hair straight and smooth. The percent of the process left to complete is modeled by $p = -12.5t + 100$, where t is the time in minutes that the solution is left on the hair, and p represents the percent of the process left to complete.

- Find the zero of this function. **8**
- Make a graph of this situation. **See Chapter 3 Answer Appendix.**
- Explain what the zero represents in this context.
- State the possible domain and range of this function.

44c. The solution must remain on the hair for 8 minutes to be completely effective.

45. **MUSIC DOWNLOADS** In this problem, you will investigate the change between two quantities.

- Copy and complete the table.

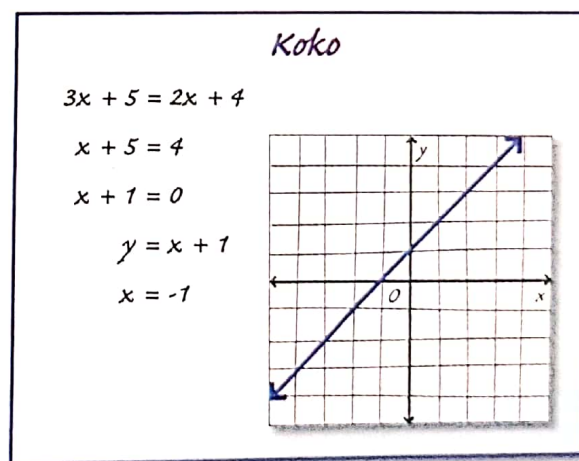
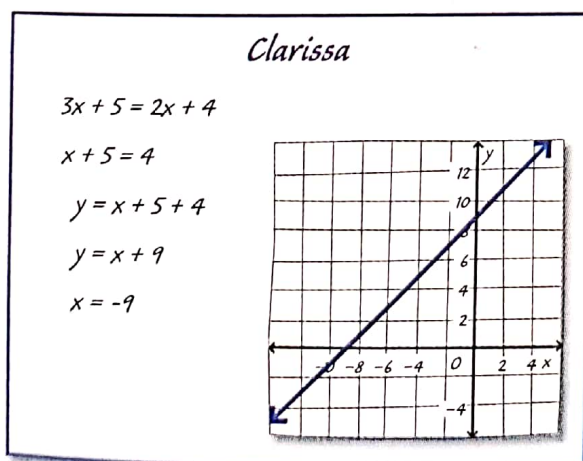
Number of Songs Downloaded	Total Cost (\$)	Total Cost Number of Songs Downloaded
2	4	2
4	8	2
6	12	2
8	16	2
10	20	2

- As the number of songs downloaded increases, how does the total cost change? **increases by 4 for each 2 songs downloaded**
- Interpret the value of the total cost divided by the number of songs downloaded. **It costs \$2 per song to download.**

H.O.T. Problems Use Higher-Order Thinking Skills

46. Koko; Clarissa did not subtract the 5 from each side of the equation.

46. **ERROR ANALYSIS** Clarissa and Koko solve $3x + 5 = 2x + 4$ by graphing the related function. Is either of them correct? Explain your reasoning.

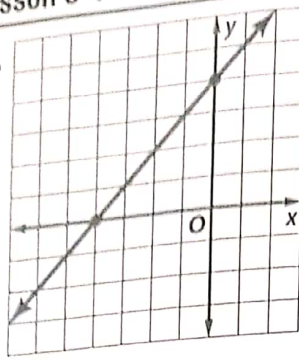


47. **CHALLENGE** Find the solution of $\frac{2}{3}(x + 3) = \frac{1}{2}(x + 5)$ by graphing. Verify your solution algebraically. **3**
48. **CCSS TOOLS** Explain when it is better to solve an equation using algebraic methods and when it is better to solve by graphing. **See margin.**
49. **OPEN ENDED** Write a linear equation that has a root of $-\frac{3}{4}$. Write its related function. **Sample answer: $3 + 4x = 0$; $y = 3 + 4x$ or $f(x) = 3 + 4x$**
50. **WRITING IN MATH** Summarize how to solve a linear equation algebraically and graphically. **See margin.**

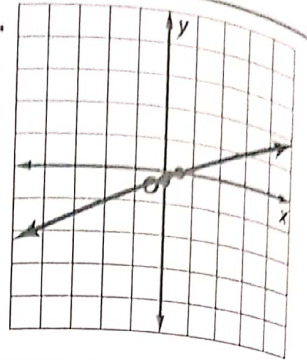


Lesson 3-1

7.

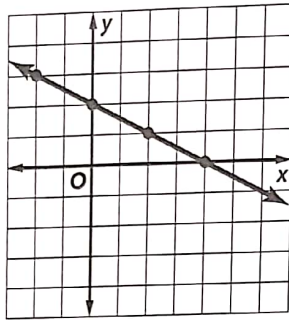


8.



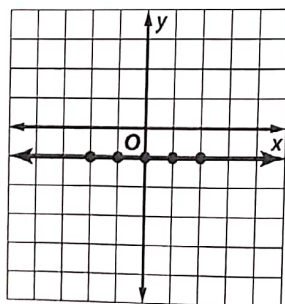
9.

x	$y = 2 - \frac{x}{2}$	y	(x, y)
-4	$y = 2 - \frac{(-4)}{2}$	4	$(-4, 4)$
-2	$y = 2 - \frac{(-2)}{2}$	3	$(-2, 3)$
0	$y = 2 - \frac{0}{2}$	2	$(0, 2)$
2	$y = 2 - \frac{2}{2}$	1	$(2, 1)$
4	$y = 2 - \frac{4}{2}$	0	$(4, 0)$



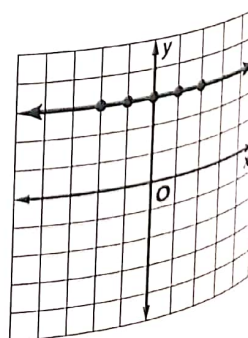
10.

x	$-3 + 2y = -5$	y	(x, y)
-2	$-3 + 2y = -5$	-1	$(-2, -1)$
-1	$-3 + 2y = -5$	-1	$(-1, -1)$
0	$-3 + 2y = -5$	-1	$(0, -1)$
1	$-3 + 2y = -5$	-1	$(1, -1)$
2	$-3 + 2y = -5$	-1	$(2, -1)$



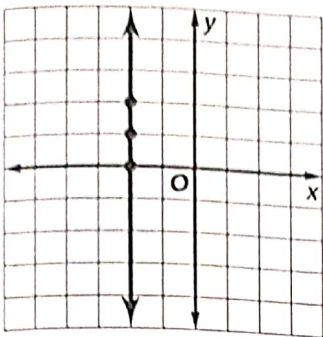
11.

x	$y = 3$	y	(x, y)
-2	$y = 3$	3	$(-2, 3)$
-1	$y = 3$	3	$(-1, 3)$
0	$y = 3$	3	$(0, 3)$
1	$y = 3$	3	$(1, 3)$
2	$y = 3$	3	$(2, 3)$



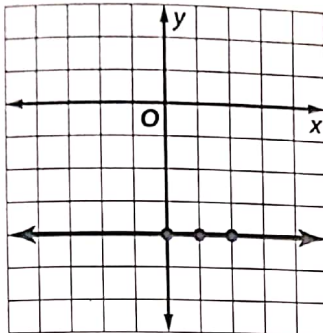
29.

x	y
-2	0
-2	1
-2	2



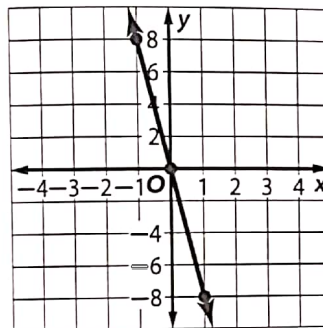
30.

x	y
0	-4
1	-4
2	-4



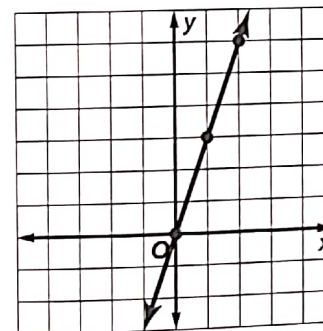
31.

x	y
-1	8
0	0
1	-8



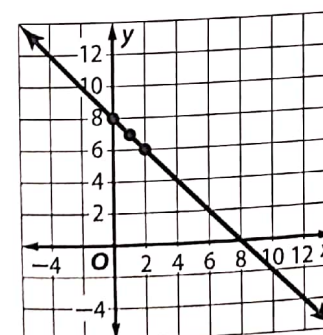
32.

x	y
0	0
1	3
2	6



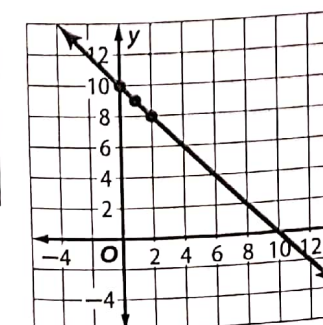
33.

x	y
0	8
1	7
2	6



34.

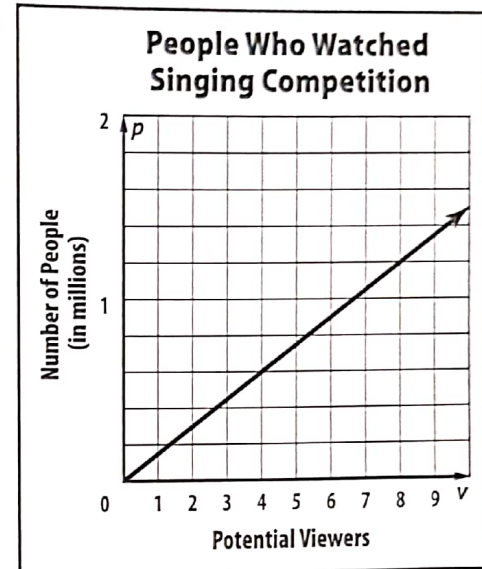
x	y
0	10
1	9
2	8



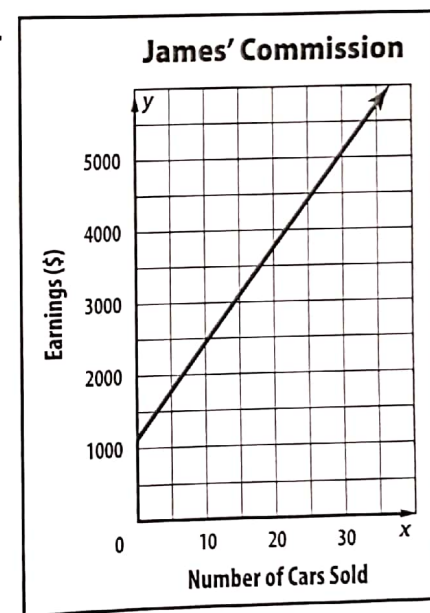
35a.

v	$p = 0.15v$	p	(v, p)
0	$p = 0.15(0)$	0	(0, 0)
2	$p = 0.15(2)$	0.3	(2, 0.3)
4	$p = 0.15(4)$	0.6	(4, 0.6)
6	$p = 0.15(6)$	0.9	(6, 0.9)
8	$p = 0.15(8)$	1.2	(8, 1.2)
10	$p = 0.15(10)$	1.5	(10, 1.5)

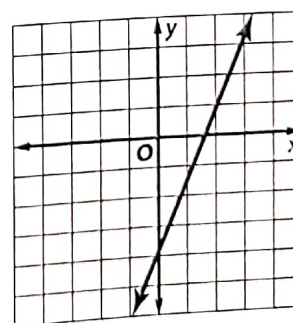
35b.



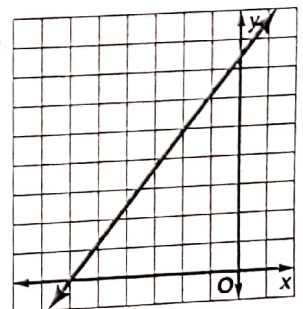
42a.

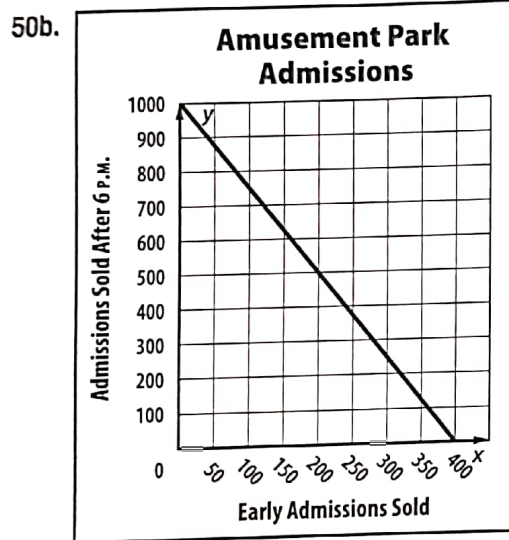
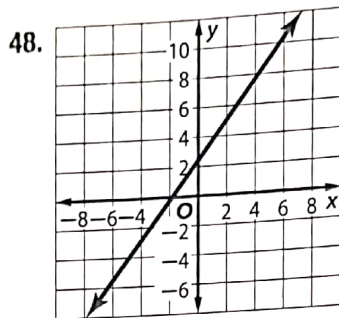
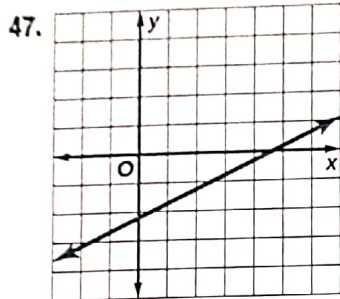
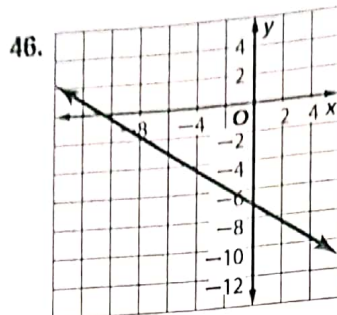
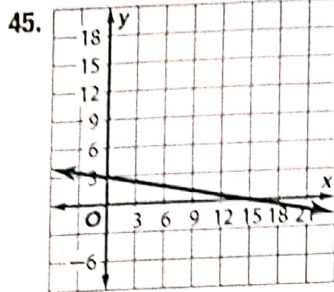


43.

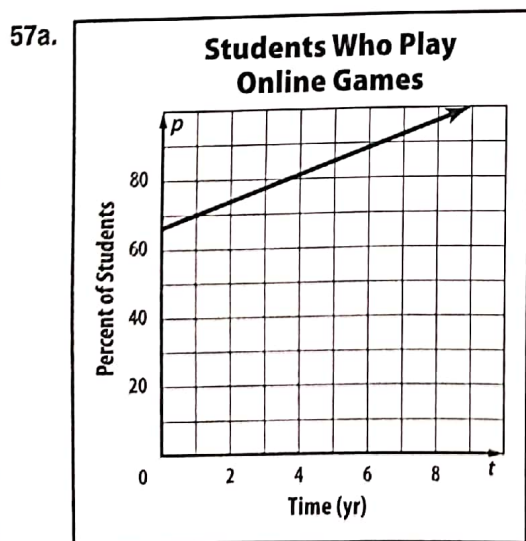


44.

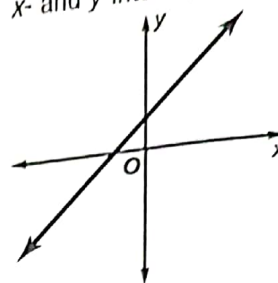




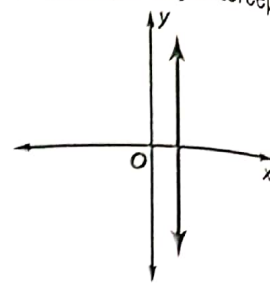
- 50c. 400; 1000; The x -intercept represents the number of admissions sold before 6 P.M. when no admissions are sold after 6 P.M. The y -intercept represents the number of admissions sold after 6 P.M. when no admissions are sold before 6 P.M.



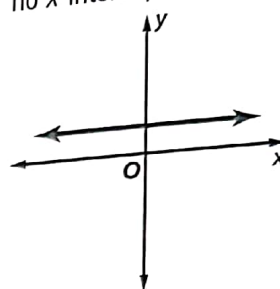
58a. Sample answer:
 x - and y -intercept



x -intercept, no y -intercept



no x -intercept, y -intercept

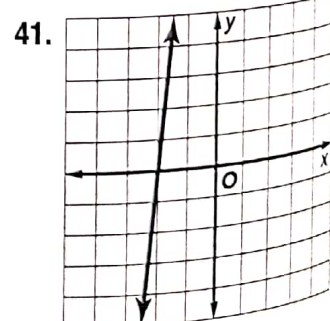
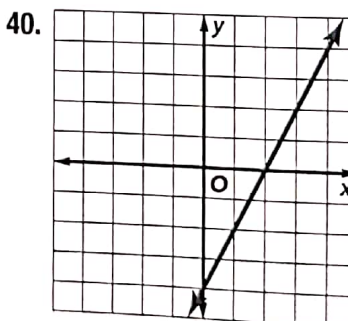
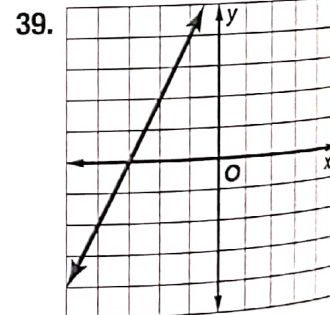
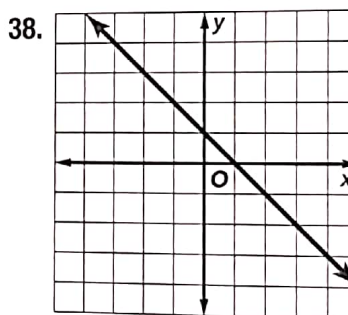


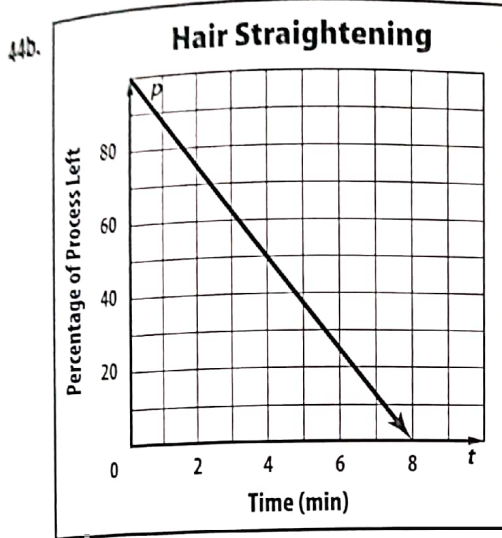
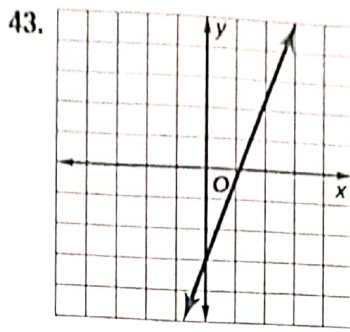
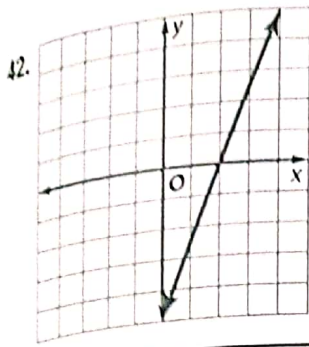
cannot draw lines
with 2 x -intercepts or
with 2 y -intercepts

60. Sample answer: The first graph is a set of points that are not connected. The second graph is of a line. The points of the first graph are points on the line in the second graph.

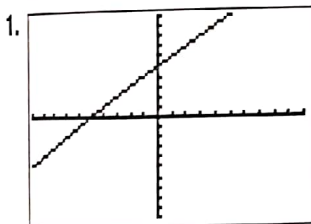
64. Sample answer: To find an x -intercept, let $y = 0$ and solve the equation for x . To find a y -intercept, let $x = 0$ and solve the equation for y . To graph most linear equations, plot the x -intercept and y -intercept and connect the points to form a line. Another way to graph an equation is to choose any value in the domain and create ordered pairs. Plot the ordered pairs and connect the points to form a line.

Lesson 3-2

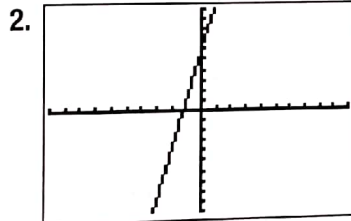




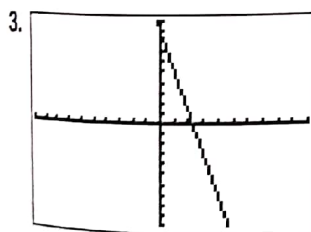
Extend 3-2



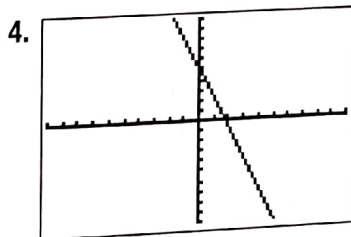
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 $[-10, 10]$ scl: 1



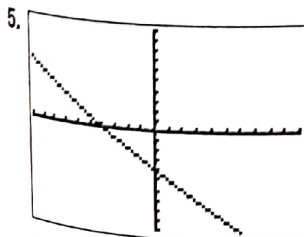
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 $[-10, 10]$ scl: 1



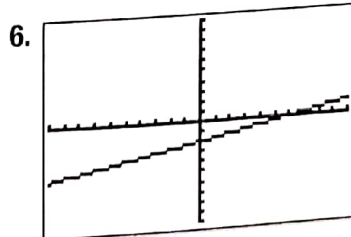
$[-10, 10]$ scl: 1 by
 $[-10, 10]$ scl: 1



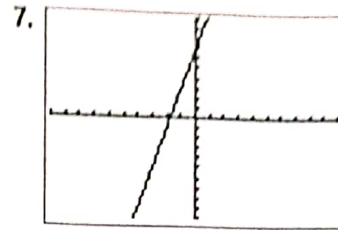
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 $[-10, 10]$ scl: 1



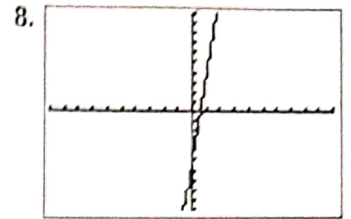
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 $[-10, 10]$ scl: 1



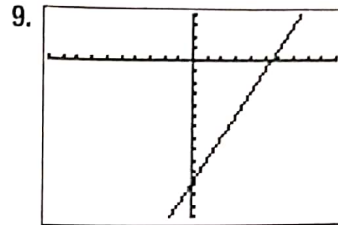
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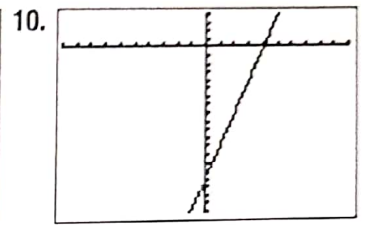
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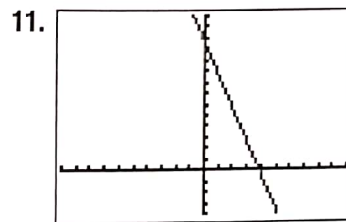
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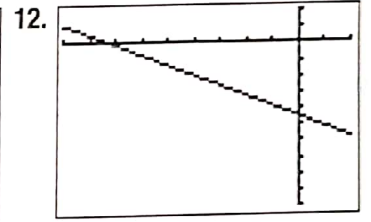
$[-10, 10]$ scl: 1 by
 $[-15, 5]$ scl: 1



$[-10, 10]$ scl: 1 by
 $[-20, 5]$ scl: 1



$[-10, 10]$ scl: 1 by
 $[-5, 15]$ scl: 1



$[-36, 8]$ scl: 4 by
 $[-20, 4]$ scl: 2

Lesson 3-3

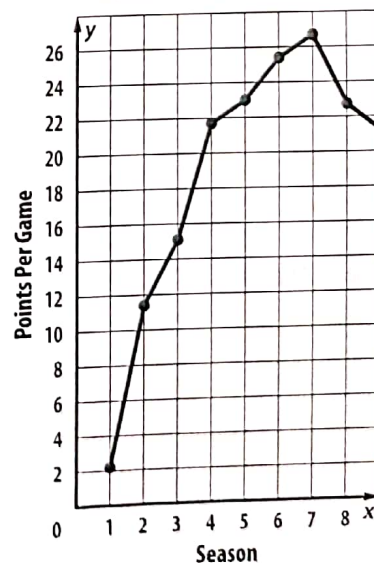
20. Yes; the rate of change is constant.

21. No; the rate of change is not constant.

22. No; the rate of change is not constant.

23. Yes; the rate of change is constant.

47a. Michael Redd's PPG



47b. Season 1 to Season 2; It is the steepest part of the graph.

47c. The rate of change was much more dramatic or steeper in the first four years, it leveled off the next three seasons, and was negative and steeper the last two seasons.