p. 7

26. 40 km/h **27.** $36.25 **28.** $7.50 **32.** 15,000 mm **33.** 2200 g

59. a. Pluto, Neptune, Uranus, Saturn, Jupiter, Mars, Earth, Mercury, Venus

b. Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto

c. *Sample answer:* The planets are in opposite orders in parts (a) and (b) with the exception of Mercury and Venus.

d. Mercury or Venus

60. a. 240,000 lb; 0.004375 lb

b. about 54,857,143 times

c. *Sample answer:* You could convert the weights to ounces and then compare them.

---

p.13

6. 64

7. 49

8. -25 **9.** -32

10. -512

11. $-10{,}000$

12. 9 **13.** -64

19. -100 **20.** 19 **21.** 75

22. -5 **23.** 6

29. $11m - 1$

30. $4n^2 + 10n + 12$

31. $-5p^2 + 21$

32. $-2q^2 - 6q - 12$

46. $4p^3 + 3q^2 - q$ ***47.*** $13m^2 - 5$

35. $10n + 24$; 44

36. $4g + 8h$; 52

37. 26 **38.** -65

39. 49 **40.** 19

45. $2m^2 + n^2 - 8m$

48. $12y^2 - 7x - 5$

49. $-8s + 8t$

57. 0, 10, 20, 30; $1.89, $3.20, $4.51, $5.82

58. $175m + 96{,}882$; 98,982 mi

59. $270 - 4.5x$; no; when $x > 60$ there will be a negative balance on the card, which means you will have spent more than what you had on the card.

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p. 21

6. -8

9. $-\frac{2}{9}$

12. 5.5

15. 18

18. $-3\frac{1}{2}$

21. 1

24. -5

27. $-1\frac{1}{3}$

30. $-\frac{1}{2}$

33. 4

36. $\frac{4}{7}$

39. 28

42. Both sides of the equation should be multiplied by 10;

$10\left(\frac{1}{5}x + \frac{1}{2}\right) = 10 \cdot 1;$

$2x + 5 = 10;\ 2x = 5;\ x = 2\frac{1}{2}.$

45. 60

48. -3

51. 6; 15, 8, 15, 8

54. 5; 8, 8, 5, 5

57. -2

60. -3

68. 7 T-shirts **69.** 3 h

70. $500,000 **71.** 9 h

p. 30

7. $y = 26 - 3x$; 5

8. $y = -\frac{1}{4}x + 6$; 4

9. $y = -\frac{6}{5}x + \frac{31}{5}$; 11

10. $y = -\frac{15}{4}x + \frac{9}{4}$; $13\frac{1}{2}$

11. $y = \frac{3}{2}x - \frac{21}{2}$; -3

12. $y = \frac{5}{9}x - \frac{14}{3}$; $-1\frac{1}{3}$

13. $y = \frac{7}{4}x - \frac{11}{4}$; 6

14. $y = \frac{4}{9}x - \frac{10}{3}$; $\frac{2}{9}$

21. $y = \frac{40 + 3x}{x}$; 11

22. $y = \frac{7x + 18}{x}$; $2\frac{1}{2}$

23. $y = \frac{16x + 28}{3x}$; $7\frac{2}{3}$

24. $y = \frac{30}{6x + 9}$; $-1\frac{1}{9}$

33. $d = \frac{C}{\pi}$; about 36 in.

35. $C = \frac{5}{9}(F - 32)$; 10°C

12 points

---

p. 33

2. a. $10x + 15 = 50$
b. 3.5 ; you have enough money to be admitted to 3 special exhibits.

3. Dave Andreychuk, Tim Taylor, cory Sarich, Rusian Fedotenko, Vincent Lecavalier, Martin St. Louis.
Martin St. Louis is best, his team scored the most goals compared to their opponents when he was on the ice.

5. 4.8 hours.

7. a. Missing table entries are y and 20y
b. 518,400 - $10 bills and 3,059,200 - $20 bills
c. The total value of the $20 bills was nearly 12 times the total value of the $10 bills.

10. 13.2 cm

p. 37

13. $y = 46 - 10x$ or $y = -10x + 46$

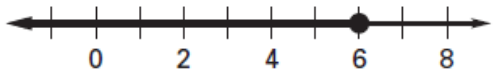
14. $y = 50x + 57$ or $y = 57 + 50x$

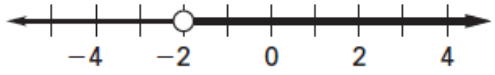
15. D

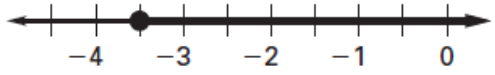
17. $4x + 9 = 12$, 0.75 ft

18. $4x + 6 = 15$, 2.25 ft.

p. 44

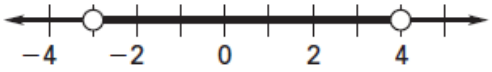
7. 

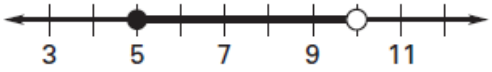
8. 

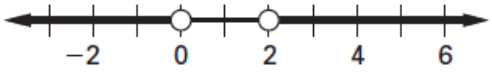
9. 

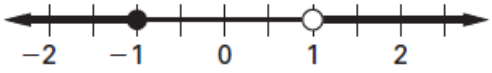
11. $-3 \le x \le 1$

12. $x \le 0$ or $x > 2$

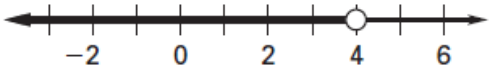
17. 

18. 

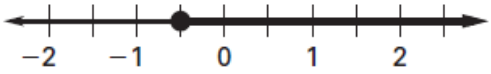
19. 

20. 

25. $x < 4$

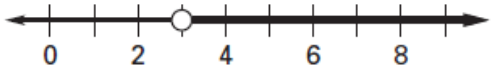


26. $x \ge -\frac{1}{2}$

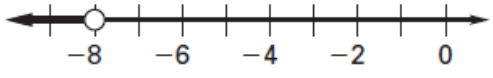


27. $x \le 6$

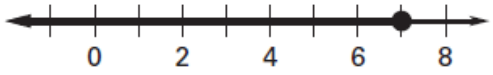
28. $x > 3$



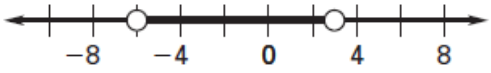
29. $x < -8$



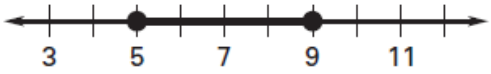
30. $x \le 7$



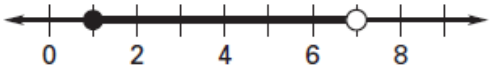
37. $-6 < x < 3$



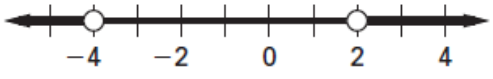
38. $5 \le x \le 9$



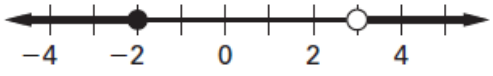
39. $1 \le x < 7$



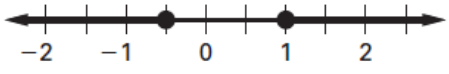
43. $x < -4$ or $x > 2$



44. $x \le -2$ or $x > 3$



45. $x \le -\frac{1}{2}$ or $x \ge 1$



54. $65 \le T < 72$; $72 \le T < 80$; $T \ge 80$

55. **a.** $0 \le e < 500$

b. $1400 \le e < 2429$

c. $0 \le e < 500$ or $1400 \le e < 2429$

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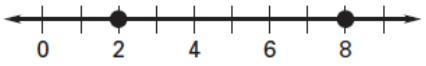
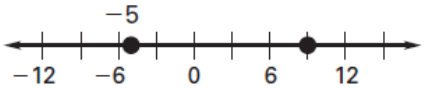
3. solution **4.** not a solution

5. not a solution **6.** solution

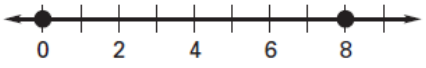
12. 2, 8



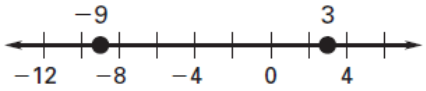
13. −5, 9



14. 0, 8



15. −9, 3



21. −4, 9 **22.** $-7, -2\frac{1}{3}$

23. $\frac{6}{7}$, 2 **24.** −5, 9

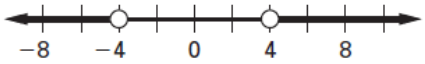
25. −7, 4 **26.** $-12\frac{1}{2}$, 9

34. 1, 2 **35.** −3 **36.** $\frac{1}{2}, \frac{1}{14}$

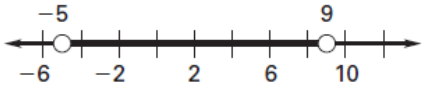
37. $-1\frac{1}{2}, -\frac{1}{2}$

43. $-5 \le j \le 5$

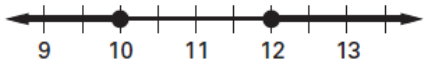
44. $k < -4$ or $k > 4$



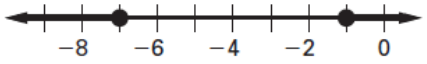
45. $-5 < m < 9$



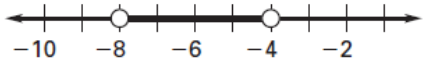
46. $n \le 10$ or $n \ge 12$



47. $d \le -7$ or $d \ge -1$

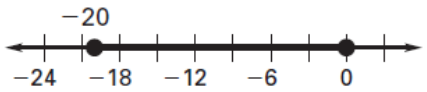


48. $-8 < f < -4$



49. $g < 1$ or $g > 1$

50. $-20 \le h \le 0$



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p. 59

3. a. d = -1.5x + 12
b. 8 hours
c. No; after the pool is empty the depth cannot go lower than zero.

6. a. x + 9 > 2x, x + 2x > 9, 2x + 9 > x
b. x < 9, x > 3, x > -9
c. 3 < x < 9
d. Answers vary. Sample: