TEST BANK

IGNACIO BELLO | FRAN HOPF

INTERMEDIATE

algebra

A REAL WORLD APPROACH

THIRD EDITION

Chapter 2

1. Determine if the number in the box is a solution of the equation.

   $-9x + 4 = -50;$ $\boxed{6}$

   A) Yes   B) No
   Ans: A
   Section: 2.1

2. Determine if the number in the box is a solution of the equation.

   $-9x - 3 = -84;$ $\boxed{9}$

   A) Yes   B) No
   Ans: A
   Section: 2.1

3. Determine if the number in the box is a solution of the equation.

   $-9y + 1 = -7y + 5;$ $\boxed{-2}$

   A) Yes   B) No
   Ans: A
   Section: 2.1

4. Determine if the number in the box is a solution of the equation.

   $-3t + 3 = 5t - \dfrac{1}{2};$ $\boxed{\dfrac{1}{2}}$

   A) Yes   B) No
   Ans: B
   Section: 2.1

5. Determine if the number in the box is a solution of the equation.

   $-\dfrac{1}{5}x + 5 = 5 - \dfrac{1}{4}x;$ $\boxed{7}$

   A) Yes   B) No
   Ans: B
   Section: 2.1

6. Solve the equation: $7x - 4 = -6$

   A) $-\dfrac{7}{2}$ B) $-\dfrac{10}{7}$ C) $-\dfrac{2}{7}$ D) An identity

   Ans: C
   Section: 2.1

7. Solve the equation: $-2x + 6 = 8x + 4$

   Ans: $\dfrac{1}{5}$

   Section: 2.1

8. Solve the equation: $5(x + 1) + 3x + 2 = -3(x + 2) + 2x + 1$

   A) 0   B) $\dfrac{2}{7}$ C) $-\dfrac{4}{3}$ D) An identity

   Ans: C

   Section: 2.1

9. Solve the equation: $y - (5 - y) = 7(y + 2) - 1$

   A) $-\dfrac{6}{7}$ B) $-\dfrac{18}{5}$ C) $\dfrac{8}{9}$ D) An identity

   Ans: B

   Section: 2.1

10. Solve the equation: $-\dfrac{3}{4}y - 4 = \dfrac{7}{4}y - 2$

   A) $\dfrac{1}{5}$ B) 2   C) $-\dfrac{4}{5}$ D) An identity

   Ans: C

   Section: 2.1

11. Solve the equation: $\dfrac{f}{3} + \dfrac{f}{11} = 9$

   A) $\dfrac{297}{14}$ B) 33   C) $-\dfrac{297}{8}$ D) An identity

   Ans: A

   Section: 2.1

12. Solve the equation: $\dfrac{w+2}{2} + \dfrac{w}{6} = \dfrac{-2w+1}{12}$

   Ans: $-\dfrac{11}{10}$

   Section: 2.1

13. Solve the equation: $\dfrac{x+1}{2} + \dfrac{x+2}{7} + \dfrac{x-2}{4} = -8$

   A) 28   B) $\dfrac{216}{25}$ C) $-\dfrac{232}{25}$ D) An identity

   Ans: C

   Section: 2.1

14. Solve the equation. $16 - (2 - 7x) = 7(x + 2)$

    A) $\dfrac{6}{7}$ B) 0   C) No solution   D) An identity

    Ans: D

    Section: 2.1

15. Solve the equation.

    $$0.25x + 17.55 = 16.8$$

    Ans: –3

    Section: 2.1

16. Solve the equation.

    $$-5x + 3.6 = 4x + 5.4$$

    A) –1.8   B) –5   C) –0.2   D) An identity

    Ans: C

    Section: 2.1

17. Solve the equation.

    $$7.2(7 - t) = 2.4(7 - t) + 4.8$$

    Ans: 6

    Section: 2.1

18. Solve the equation.

    $$0.06P + 0.08(2000 - P) = 120$$

    A) 42.55   B) 37.74   C) 2000   D) An identity

    Ans: C

    Section: 2.1

19. Solve the equation.

    $$0.7x + 4 = 0.30(x + 70)$$

    A) 17   B) 43   C) 165   D) An identity

    Ans: B

    Section: 2.1

20. Solve the given formula for the indicated letter.

    $$F = G\frac{m_1 m_2}{d^2} \quad \text{for } m_2$$

    A) $m_2 = \dfrac{Fm_1}{Gd^2}$ B) $m_2 = \dfrac{GF}{d^2 m_2}$ C) $m_2 = \dfrac{Fd^2}{Gm_1}$ D) $m_2 = \dfrac{FGd^2}{m_1}$

    Ans: C

    Section: 2.2

21. Solve the given formula for the indicated letter.

$$\frac{q}{m} = \frac{v}{Br} \quad \text{for } B$$

Ans:
$$B = \frac{mv}{qr}$$

Section: 2.2

22. Solve the given formula for the indicated letter.

$$3x + 4y = 24 \quad \text{for } y$$

A) $y = \frac{1}{4}x$ B) $y = 6 - \frac{4}{3}x$ C) $y = 6 + \frac{3}{4}x$ D) $y = 6 - \frac{3}{4}x$

Ans: D
Section: 2.2

23. The ideal height H (in inches) of a man is related to his weight W (in pounds) by the formula $H = \frac{W + 190}{5}$

   a.   Solve for W.
   b.   If a man has a height of 75 inches, how much should he weigh?

Ans: a). $W = 5H - 190$
      b). 185

Section: 2.2

24. The sum of the measures of the three angles of a triangle is 180°:

$$A + B + C = 180°,$$

where A, B, and C represent the measures of the respective three angles.
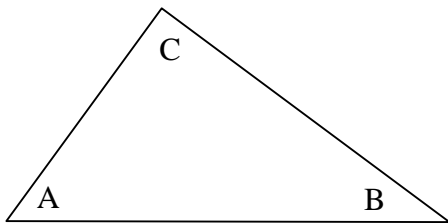
   a.   Solve for C
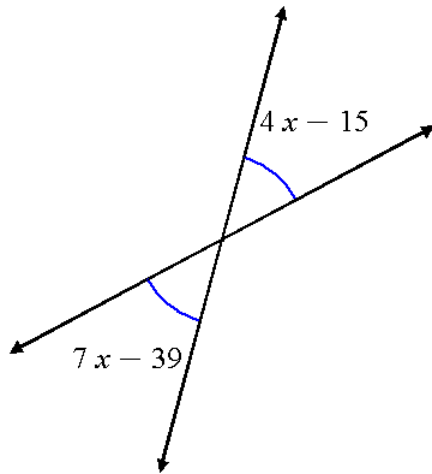   b.   If the measure of angle A is 35° and the measure of angle B is 40°, find the measure of angle C.

Ans: a). $C = 180° - A - B$
      b). 105°

Section: 2.2

25. A new automobile can be leased for $3500 down and $599 per month.
    a. Find a formula for the total cost C of the car after m months.
    b. Use the formula from part a to find the toal cost C after leasing the car for the required 43 months.
    Ans: a). $C = 599m + 3500$
          b). $29,257
    Section: 2.2

26. A computer technician charges $115 per hour with a service charge of $90 to come to your house.
    a. Write a formula for the cost C of the computer technician for h hours.
    b. If the cost of the technician to repair your computer was $210, how many hours did he work? Round to the nearest tenth of an hour.
    Ans: a). $C = 115h + 90$
          b). 1.0
    Section: 2.2

27. The cost of an Atlanta-to-Sacramento call during business hours is $0.37 for the initial minute and $0.05 for each additional minute t or fraction thereof.
    a. Write a formula for the cost C of an Atlanta-to-Sacramento call.
    b. Use the formula from part a to find the time of a phone call from Atlanta-to-Sacramento if the cost was $3.25.
    Ans: a). $C = 0.05(t - 1) + 0.37, t \geq 1$
          b). 58.6 min.
    Section: 2.2

28. A appliance serviceman charges $22 per hour ($h$) plus $50 for the service call.
    a. Find a formula for C if C is the total cost for the service call.
    b. Use the formula from part a to find the number of hours worked by an appliance serviceman who charged $200.00 (round to the nearest tenth of an hour).
    Ans: a). $C = 50 + 22h$
          b). 6.8 hr
    Section: 2.2

29. Find x and then find the measure of each marked angle.
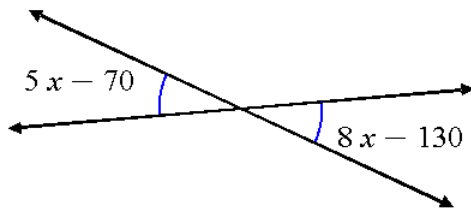
$4x - 15$

$7x - 39$

A) $x = 18$; each angle measures 57°   C) $x = 8$; each angle measures 17°
B) $x = 4.9$; each angle measures 4.6°   D) $x = 2.2$; each angle measures 23.6°
Ans: C
Section: 2.2

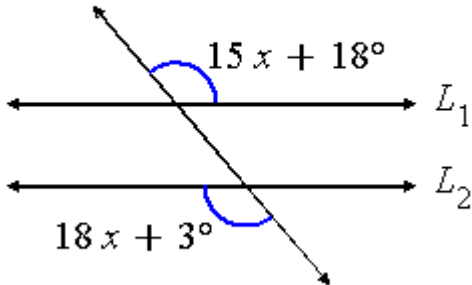30. Find x and then find the measure of each marked angle.

$5x - 70$

$8x - 130$

A) $x = 10$; each angle measures 20°   C) $x = 20$; each angle measures 20°
B) $x = 20$; each angle measures 30°   D) $x = 10$; each angle measures 30°
Ans: B
Section: 2.2

31. Find x and then find the measure of each marked angle. Assume that L_1 and L_2 are parallel.

$$15x + 18°$$
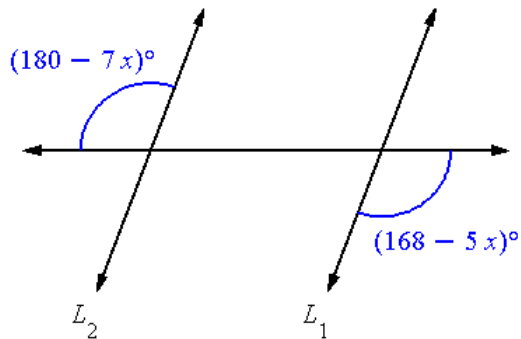
$$L_1$$

$$L_2$$

$$18x + 3°$$

A) $x = 8$; each angle measures 42°   C) $x = 5$; each angle measures 87°
B) $x = 8$; each angle measures 138°   D) $x = 5$; each angle measures 93°
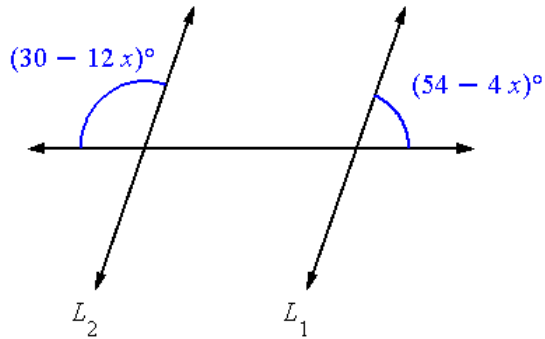
Ans: D
Section: 2.2

32. Find x and then find the measure of each marked angle. Assume that L_1 and L_2 are parallel.

$$(180 - 7x)°$$

$$(168 - 5x)°$$

$$L_2 \qquad L_1$$

Ans: $x = 6$; each angle measures 138°
Section: 2.2

33. Find x and then find the measure of each marked angle. Assume that L_1 and L_2 are parallel.

A) $x = -3$; the angles measure 60°, 68°
B) $x = -12$; the angles measure 102°, 174°
C) $x = -6$; the angles measure 78°, 102°
D) $x = -5$; each angle measures 74°, 90°
Ans: C
Section: 2.2

34. Translate the following sentence into an equation. (Do not solve.)
    The product of 5and a number m is the number increased by 11.
    A) $5 + m = m + 11$ B) $5 + m = 11$ C) $5m = 11$ D) $5m = m + 11$
    Ans: D
    Section: 2.3

35. Translate the following sentence into an equation. (Do not solve.)
    The product of 2 and a number q is the number decreased by 13.
    Ans: $2q = q - 13$
    Section: 2.3

36. Translate the following sentence into an equation. (Do not solve.)
    The quotient of a number n and 3 yields 14 less than twice the number.
    A) $\dfrac{n}{3} = 2n - 14$ B) $\dfrac{n}{3} = 14 - 2n$ C) $\dfrac{3}{n} = 2n - 14$ D) $\dfrac{3}{n} = 14 - 2n$
    Ans: A
    Section: 2.3

37. Translate the following sentence into an equation. (Do not solve.)
    The quotient of a number m and 3 yields 13 more than twice the number.
    A) $\dfrac{m}{3} = 2m + 13$ B) $\dfrac{m}{3} = 13 - 2m$ C) $\dfrac{3}{m} = 3m + 13$ D) $\dfrac{3}{m} = 13 + 2m$
    Ans: A
    Section: 2.3

38. Eight times a certain number is 4 less than 6 times the number. What is the number?
    Ans: –2
    Section: 2.3

39. Nine times a certain number is 28 increased by 2 times the number. What is the
    number?
    A) –3   B) –4   C) –5   D) 4
    Ans: D
    Section: 2.3

40. If 3 is subtracted from half a number, the result is 9 less than the number itself. Find
    the number.
    A) –12   B) 12   C) 13   D) 14
    Ans: B
    Section: 2.3

41. One-fifth of a certain number plus 2 times the number is 11
    A) 45   B) 9   C) 5   D) 1
    Ans: C
    Section: 2.3

42. Jordan is 18 years old and his brother is 2 years old. In how many years will Jordan be
    three times as old as his brother?
    A) 6   B) 16   C) 9   D) 12
    Ans: A
    Section: 2.3

43. The sum of three consecutive even integers is 120. Find the integers.
    A) 38, 38, 38   B) 38, 40, 42   C) 36, 38, 40   D) No solution
    Ans: B
    Section: 2.3

44. The sum of three consecutive odd integers is 147. Find the integers.
    A) 49, 49, 49   B) 47, 49, 51   C) 48, 49, 50   D) No solution
    Ans: B
    Section: 2.3

45. The sum of two numbers is 128, and one of them is 4 more than the other. Find the
    numbers.
    Ans: 62, 66
    Section: 2.3

46. The larger of two numbers is 6 times the smaller. Their sum is 147
    A) 21, 126   B) 17, 122   C) 23, 128   D) No solution
    Ans: A
    Section: 2.3

47. The weight of an object on the moon is obtained by dividing its weight on earth by 6.25. If an astronaut weighs 25 lbs on the moon, what is the corresponding weight on earth? Round to the nearest pound.
    A) 156 lbs   B) 150 lbs   C) 153 lbs   D) 115 lbs
    Ans: A
    Section: 2.3

48. An angle has 5 times the measure of its complement. What is the measure of the angle?
    A) 65°   B) 20°   C) 15°   D) 75°
    Ans: D
    Section: 2.3

49. The sum of the measures of an angle and one third a second angle is 70°. If the angles are complementary, what are their measures?
    Ans: 60°, 30°
    Section: 2.3

50. An angle is 18° less than 5 times the measure of its supplement. What are the measures of the angle and its supplement?
    Ans: 147°, 33°
    Section: 2.3
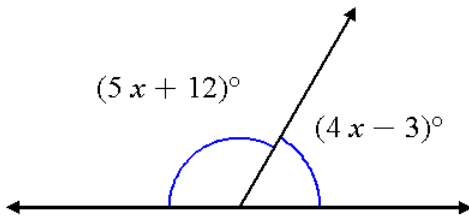
51. Find x and the measure of each complementary angle.

$(5x + 12)°$

$(7x - 30)°$
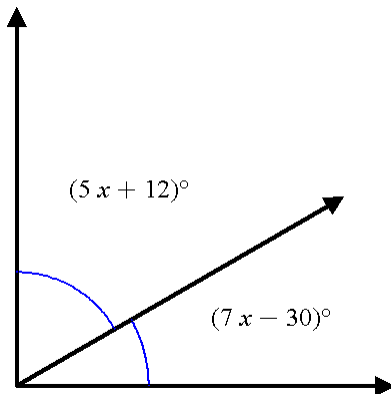
    A) $x = 9, 57°, 33°$ B) $x = 4, 32°, 58°$ C) $x = 6, 42°, 48°$ D) $x = 5, 37°, 53°$
    Ans: A
    Section: 2.3

52. Find x and the measure of each supplementary angle.

A) $x = 18$, 102°, 78°	C) $x = 22$, 122°, 58°
B) $x = 19$, 107°, 73°	D) $x = 24$, 132°, 48°

Ans: B

Section: 2.3

53. By weight, the average adult is composed of 43 % muscle, 26 % skin, 17.5 % bone, 7 % blood, and 6.5 % organs. Suppose a person weighs 155 pounds.
   a. How many pounds of muscle does the person have?
   b. How many pounds of organs does the person have?

Ans: a). 66.6 pounds of muscle
      b). 10.1 pounds of organs

Section: 2.4

54. The selling price of an article is $38. If the markup is 22 % of the cost, what is the cost of the article?

Ans: $31.15

Section: 2.4

55. If 25 is increased to 40, what is the percent increase?
   A) 37.5 %   B) 15 %   C) 60.0 %   D) 6.0 %

Ans: C

Section: 2.4

56. If 55 is decreased by 22 % of itself, what is the result?
   A) 9.9   B) 33.0   C) 12.1   D) 42.9

Ans: D

Section: 2.4

57. Assume that the number of beverages introduced in the market during two consecutive years decreased by 6% to 590 new beverages. How many beverages were introduced during the first year?
    A) 555   B) 628   C) 668   D) 596
    Ans: B
    Section: 2.4

58. Two sums of money totaling $15,000 earn, respectively, 8% and 4% annual interest. If interest from both investments amounts to $836, how much is invested at each rate?
    A) $6400 at 8%, $8600 at 4%   C) $8600 at 8%, $6400 at 4%
    B) $9100 at 8%, $5900 at 4%   D) $5900 at 8%, $9100 at 4%
    Ans: D
    Section: 2.4

59. An investor invested $20,000, part at 7% and the rest at 5%. Find the amount invested at each rate if the annual income from the two investments is $1228.
    A) $10,900 at 7%, $9100 at 5%   C) $11,400 at 7%, $8600 at 5%
    B) $8600 at 7%, $11,400 at 5%   D) $9100 at 7%, $10,900 at 5%
    Ans: C
    Section: 2.4

60. A young woman invested $25,000, part at 5% and the rest at 7%. If her annual interest from these two investments amounted to $1430, how much money did she have invested at each rate?
    A) $15,500 at 5%, $9500 at 7%   C) $9500 at 5%, $15,500 at 7%
    B) $16,000 at 5%, $9000 at 7%   D) $9000 at 5%, $16,000 at 7%
    Ans: B
    Section: 2.4

61. A man has invested $35,000, part in a CD that pays 2% and the rest in a money market account that pays 10%. If his annual interest from these two investments amounted to $2284, how much money did he have invested at each rate?
    Ans: $15,200 at 2 %, $19,800 at 10 %
    Section: 2.4

62. A man has a savings account that pays 3% annual interest and a mutual fund account that pays 9% annually. His total interest from the two accounts is $1578, and the total amount of money in the two accounts is $20,000. How much money does he have in the savings account?
    A) $3,700   B) $16,300   C) $16,800   D) $3,200
    Ans: A
    Section: 2.4

63. Two hours after a car leaves Atlanta traveling at an average speed of 70 mph, a highway patrolman leaves from the same starting point to overtake the car. If the average speed of the patrolman is 100 mph, how far from Atlanta will the patrolman travel before he overtakes the car?
    A) 140 mi   B) 467 mi   C) 280 mi   D) 200 mi
    Ans: B
    Section: 2.4

64. A gang of cigarette smugglers cross the border in a 18-wheeler truck traveling in a straight line at 106 km/hr. Thirty minutes later, the border patrol starts after them in a light plane traveling 138 km/hr. Round to the nearest kilometer.
    a. How long will it take for the border patrol to reach the smugglers?
    b. How far from the border will the border patrol catch up to the smugglers?
    Ans: a). 1.7 hrs
        b). 229 km
    Section: 2.4

65. At 7:00 AM a loaded freight train leaves Pittsburgh at 20 mph. At 10:00 AM, an AmTrak train leaves the same station on a parallel track traveling at 75 mph. How far from the station will both trains be when the AmTrak train passes the freight train? (Round answer to nearest mile.)
    A) 307 miles   B) 1023 miles   C) 82 miles   D) 353 miles
    Ans: C
    Section: 2.4

66. A luxury liner leaves the docks traveling at 40 miles per hour. Three hours later a VIP, who had been caught in traffic and thus missed the boat, arrives at the docks. The VIP hires a cigarette boat and departs from the docks at 85 miles per hour. How far out to sea has the cruise ship sailed before the speed boat catches up to it? (Round your answer to the nearest mile.)
    A) 482 miles   B) 167 miles   C) 107 miles   D) 227 miles
    Ans: D
    Section: 2.4

67. John and his college roommate were going to meet at the Indianapolis Colts football game Sunday afternoon. John left the dorm room for the game at 8:00 AM traveling an average of 50 mph and his roommate left the form room for the game at 11:00 AM traveling at 80 mph. They arrived in the parking lot at the same time! How far from the stadium do John and his roommate live? (Round your answer to the nearest mile.)
    A) 90 miles   B) 400 miles   C) 640 miles   D) 377 miles
   Ans: B
    Section: 2.4

68. How many liters (L) of a 45 % acid solution must be added to 12 L of a 70 % acid solution to obtain a 55 % solution? (Round answer to the nearest decimal.)
    A) 18.0 liters   B) 9.0 liters   C) 13.5 liters   D) 10.1 liters
    Ans: A
    Section: 2.4

69. How many liters of pure water must be added to 10 L of an 81 % salt solution to dilute it to a 69 % salt solution? (Round your answer to the nearest tenth of a liter.)
    A) 1.4 L B) 1.2 L C) 1.7 L D) 1.1 L
    Ans: C
    Section: 2.4

70. How many liters of pure water must be evaporated from 10 L of a 64% salt solution to strengthen it a 74% salt solution? (Round your answer to the nearest tenth of a liter.)
    Ans: 1.4 L
    Section: 2.4

71. At a local store, salted peanuts sell for $2.38 per lb and M&M's for $3.35 per lb. How many pounds of each would it take to make 18 lbs of trail mix that sells for $2.75 per lb? (Round answer to the nearest tenth of a pound.)
    A)   9.5 pounds of peanuts and 8.5 pounds of M&M's
    B)   8.5 pounds of peanuts and 9.5 pounds of M&M's
    C)   11.1 pounds of peanuts and 6.9 pounds of M&M's
    D)   6.9 pounds of peanuts and 11.1 pounds of M&M's
    Ans: C
    Section: 2.4

72. How much of a 10% solution needs to be added to 8 liters of 50% solution to make a 38% solution? Round to the nearest tenth of a liter.
    A) 18.7 L B) 11.0 L C) 8.3 L D) 3.4 L
    Ans: D
    Section: 2.4

73. Graph the inequality and write the solution set using interval notation.

$x > 1$
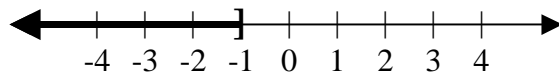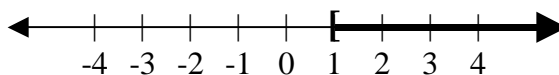
A) $(1, \infty)$
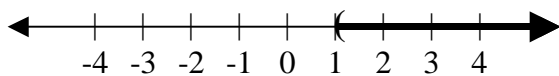
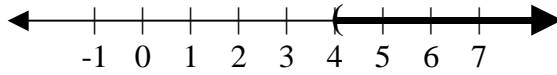B) $(-\infty, -1)$
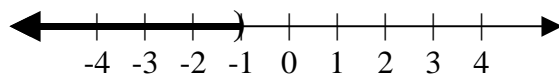
C) $(-\infty, -1]$

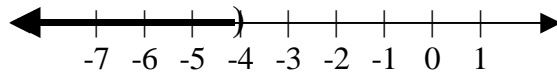D) $[1, \infty)$

Ans: A
Section: 2.5

74. Graph the inequality and write the solution set using interval notation.
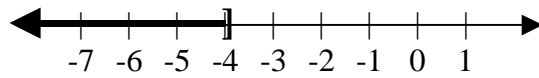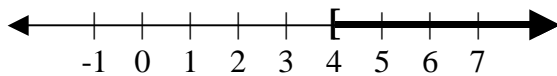
$x \geq 4$

A) $(4, \infty)$

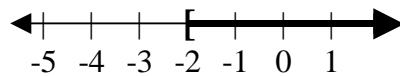B) $(-\infty, -4)$

C) $(-\infty, -4]$

D) $[4, \infty)$

Ans: D
Section: 2.5

75. Graph the inequality and write the solution set using interval notation.
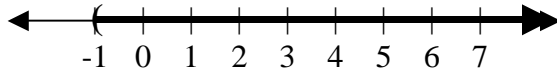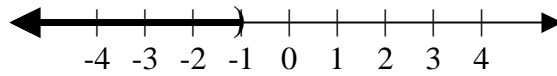
$x \geq -2$

Ans: $[-2, \infty)$

Section: 2.5

76. Graph the inequality and write the solution set using interval notation.
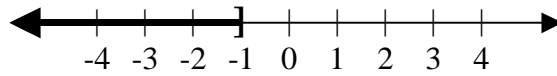
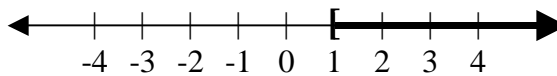$x \geq 1$

A) $(-1, \infty)$

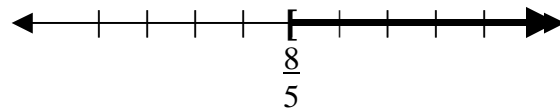B) $(-\infty, -1)$

C) $(-\infty, -1]$

D) $[1, \infty)$

Ans: D
Section: 2.5

77. Solve the inequality, graph the solution set, and write the solution set in interval notation.

$5x \geq 8$

Ans: $x \geq \dfrac{8}{5}$

$\left[\dfrac{8}{5}, \infty \right)$

Section: 2.5

78. Solve the inequality and write the solution set in interval notation.

$-5x \geq 4$

Ans: $x \leq -\dfrac{4}{5}$, $\left(-\infty, -\dfrac{4}{5} \right]$

Section: 2.5

79. Solve the inequality and write the solution set in interval notation.

$$-5x - 5 \geq -6$$

Ans: $x \leq \dfrac{1}{5}, \left(-\infty, \dfrac{1}{5}\right]$

Section: 2.5

80. Solve the inequality and write the solution set in interval notation.

$$-3x - 4 \geq -10x - 3$$

Ans: $x \geq \dfrac{1}{7}, \left[\dfrac{1}{7}, \infty\right)$

Section: 2.5

81. Solve the inequality and write the solution set in interval notation.

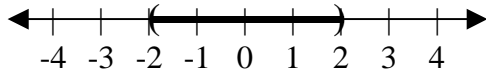$$\dfrac{6x + 2}{6} + \dfrac{1}{2} \geq \dfrac{3}{4}x$$

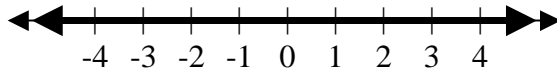Ans: $x \geq -\dfrac{10}{3}, \left[-\dfrac{10}{3}, \infty\right)$

Section: 2.5

82. Solve and graph the solution set. If the solution set is empty, write $\varnothing$ for the answer.

$$7x + 5 > -9 \text{ or } 2x + 3 < 5$$

A) $-2 < x < 2$

-4 -3 -2 -1   0   1   2   3   4

B) All real numbers

-4 -3 -2 -1   0   1   2   3   4

C) $x < -2 \text{ or } x > 2$

-4 -3 -2 -1   0   1   2   3   4

D) $x \leq -2 \text{ or } x \geq 2$

-4 -3 -2 -1   0   1   2   3   4

Ans: B
Section: 2.5

83. Solve and graph the solution set. If the solution set is empty, write ∅ for the answer.
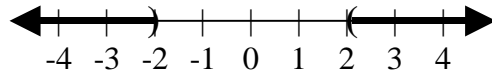 $-6x + 5 < -7$ or $3x + 1 < -5$

A) $-2 < x < 2$
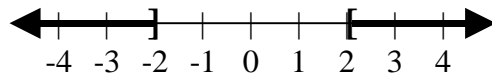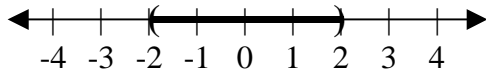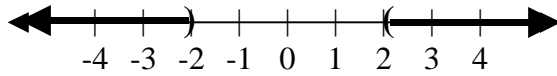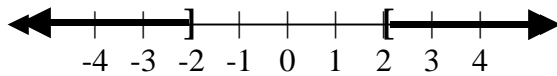

B)   ∅
C) $x < -2$ or $x > 2$
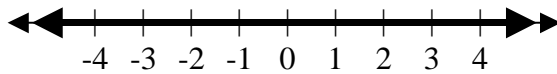

D) $x \le -2$ or $x \ge 2$

Ans: C
Section: 2.5

84. Graph the solution set. If the solution set is empty, write ∅ for the answer.
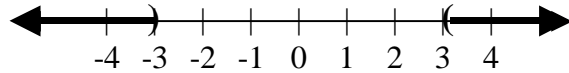 $x < -3$ and $x > 3$

A)

B)   ∅
C)

D)

Ans: B
Section: 2.5

85. Graph the solution set. If the solution set is empty, write $\varnothing$ for the answer.

$\{x \mid x - 5 \geq -8 \text{ and } -x \geq -3\}$

Ans:

Section: 2.5

86. Solve the inequality and write your answer in interval notation. If the solution set is empty, write $\varnothing$ for the answer. $\qquad -4 \leq 3x + 1 \leq 5$

A) $\left[-\dfrac{5}{3}, \dfrac{4}{3}\right]$ B) $\varnothing$ C) $\left(-\dfrac{5}{3}, \dfrac{4}{3}\right)$ D) All real numbers, $(-\infty, \infty)$

Ans: A
Section: 2.5

87. Solve the inequality and write your answer in interval notation. If the solution set is empty, write $\varnothing$ for the answer.

$$2 < 4 + \dfrac{2}{5}x < 6$$

Ans: $(-5, 5)$

Section: 2.5

88. Translate the statement into an inequality. When you are in Baskin-Robbins and you are thinking of ordering two scoops of ice cream, the number of flavor combinations s for the two scoops is at most 2,147,483,648.

A) $s < 2{,}147{,}483{,}648$ C) $s \leq 2{,}147{,}483{,}648$
B) $s > 2{,}147{,}483{,}648$ D) $s \geq 2{,}147{,}483{,}648$

Ans: C
Section: 2.5

89. Translate the statement into an inequality. Many families preserve their fresh vegetables from the garden by canning them. To do this, they use glass jars especially made for canning along with a pressure canner. When you can vegetables you must maintain a pressure p of at least 12 pounds.
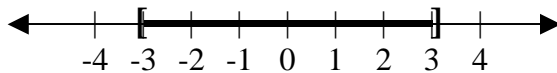
A) $p < 12$ B) $p > 12$ C) $p \leq 12$ D) $p \geq 12$
Ans: D
Section: 2.5

90. Translate the statement into an inequality. Many families preserve their fresh vegetables from the garden by canning them. To do this, they use glass jars especially made for canning along with a pressure canner. When you can vegetables you cannot reach a pressure p of 15 pounds or higher.
    Ans: $p < 15$
    Section: 2.5

91. Translate the statement into an inequality. After being formatted a 1.44 Mb floppy disk has space s of at most 1.38 Mb available
    A) $s > 1.38$ B) $s \geq 1.38$ C) $s \leq 1.38$ D) $s < 1.38$
    Ans: C
    Section: 2.5

92. When the variable cost per unit is $14 and the fixed cost is $150,000, the total cost for a certain product is $C = 14n + 150,000$ (n is the number of units sold). If the unit price is $21, the revenue R is $21n$. What is the minimum number of units that must be sold to make a profit?
    A) 8929   B) 10,714   C) 7143   D) 21,430
    Ans: D
    Section: 2.5

93. Solve the equation.
    $$|x| = -13$$
    A) $x = -13$ B) $x = 13$ C) $-13 \leq x \leq 13$ D) $x = 13, -13$
    Ans: D
    Section: 2.6

94. Solve the equation.
    $$|4x + 4| = 13$$
    A) $x = \dfrac{9}{4}, -\dfrac{17}{4}$ B) $x = \dfrac{9}{4}$ C) $-\dfrac{17}{4} \leq x \leq \dfrac{9}{4}$ D) $x = -\dfrac{17}{4}$
    Ans: A
    Section: 2.6

95. Solve the equation.
    $$\left| \frac{1}{3}x + 2 \right| = 5$$
    Ans: $x = 9, -21$
    Section: 2.6

96. Solve the equation.

$$|y - 2| = |y + 4|$$

A) ∅   B) 2   C) –1   D) –6

Ans: C

Section: 2.6

97. Solve the equation.

$$|6y - 8| = |8 - 6y|$$

A) ∅   B) All real numbers   C) $y = 1$ D) $y = \dfrac{4}{3}, \ -\dfrac{4}{3}$
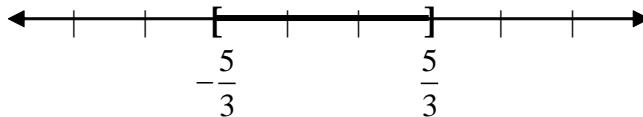
Ans: B

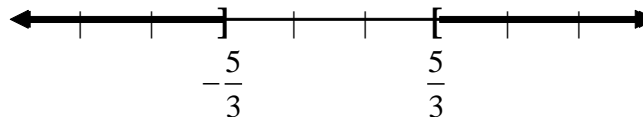Section: 2.6

98. Solve the equation and graph. $3|z| \le 5$

A)   ∅

B)   All real numbers

C) $-\dfrac{5}{3} \le z \le \dfrac{5}{3}$

D) $z \le -\dfrac{5}{3}$ or $z \ge \dfrac{5}{3}$

Ans: C

Section: 2.6

99. Solve the equation and write the solution using interval notation.

$$|3x + 5| < -6$$

Ans: ∅

Section: 2.6

100. Solve the equation and write the solution using interval notation.

$$|x + 5| > 3$$

A) ∅   B) All real numbers, $(-\infty, \infty)$ C) $x < -8$ or $x > -2$ D) $-8 < x < -2$

Ans: C

Section: 2.6

101. Solve the equation and write the solution using interval notation.
    $$-2|x-3| < -6$$
    A) $\varnothing$ B) All real numbers, $(-\infty, \infty)$ C) $x < 0$ or $x > 6$ D) $0 < x < 6$

    Ans: C
    Section: 2.6

102. A company budgets $400 for printer supplies every quarter. If their variance is $55, write an inequality giving the amounts between which the actual expenses a must fall.
    A) $0 < a < \$55$ B) $a < \$455$ C) $a < \$345$ D) $\$345 \le a \le \$455$

    Ans: D
    Section: 2.6