Introductory and Intermediate Algebra 6th edition Bittinger Test Bank

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Exam

Name_____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Decide if the given number is a solution to the given equation.

1) $2x = 16;\ 6$ 1) _____
A) Yes B) No

2) $\frac{x}{9} = 8; 72$ 2) _____
A) No B) Yes

3) $p + 5 = 16;\ 11$ 3) _____
A) Yes B) No

4) $p - 7 = 1;\ 8$ 4) _____
A) Yes B) No

5) $6m + 4 = 18;\ 2$ 5) _____
A) Yes B) No

6) $9p + 3p - 4 = 32;\ 3$ 6) _____
A) No B) Yes

Solve the equation using the addition principle.

7) $a - 8 = -7$ 7) _____
A) -1 B) -15 C) 1 D) 15

8) $a + 1 = 3$ 8) _____
A) 4 B) -4 C) 2 D) -2

9) $8 = z + 7$ 9) _____
A) -1 B) -15 C) 15 D) 1

10) $-20 = b - 2$ 10) _____
A) -22 B) 18 C) 22 D) -18

11) $z - 22.43 = 0$ 11) _____
A) -22.43 B) 21.43 C) -21.43 D) 22.43

12) $-7 + b = 11$ 12) _____
A) 18 B) -4 C) 4 D) -18

13) $27 = -21 + z$ 13) _____
A) 6 B) -6 C) 48 D) -48

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14) $-24.7 = 29.8 + x$ 14) _____

A) 5.1 B) 54.5 C) −5.1 D) −54.5

15) $\frac{1}{3} + x = 4$ 15) _____

A) 11 B) $\frac{11}{3}$ C) 1 D) $\frac{13}{3}$

16) $h + \frac{1}{2} = \frac{3}{4}$ 16) _____

A) 3 B) $\frac{5}{4}$ C) $\frac{2}{3}$ D) $\frac{1}{4}$

17) $h - \frac{1}{3} = \frac{7}{9}$ 17) _____

A) $\frac{10}{9}$ B) $\frac{2}{3}$ C) $\frac{4}{9}$ D) 4

18) $t + 3\frac{1}{2} = 5\frac{1}{2}$ 18) _____

A) 5 B) 2 C) 4 D) 9

19) $x - \frac{15}{23} = -\frac{3}{23}$ 19) _____

A) $-\frac{18}{23}$ B) $\frac{18}{23}$ C) $\frac{12}{23}$ D) $-\frac{12}{23}$

Solve using the multiplication principle.

20) $7x = 28$ 20) _____

A) $\frac{1}{4}$ B) 21 C) 4 D) 196

21) $15 = 5x$ 21) _____

A) 75 B) $\frac{1}{3}$ C) 3 D) 10

22) $-x = -11$ 22) _____

A) 11 B) −10 C) $-\frac{1}{11}$ D) −11

23) $-7a = 35$ 23) _____

A) 1 B) −42 C) −5 D) 42

24) $49 = -7k$ 24) _____

A) 1 B) −56 C) 56 D) −7

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25) $-2x = -18$ 25) _____

A) 16 B) 9 C) 2 D) −16

26) $-7b = 119$ 26) _____

A) −17 B) 1 C) 126 D) −126

27) $-126 = 9z$ 27) _____

A) 135 B) −14 C) −135 D) 1

28) $-112 = -7n$ 28) _____

A) 16 B) 2 C) 105 D) −105

29) $-4s = -68$ 29) _____

A) 64 B) 2 C) 17 D) −64

30) $\frac{x}{3} = 14$ 30) _____

A) 28 B) 42 C) 17 D) 39

31) $\frac{-t}{8} = 21$ 31) _____

A) −29 B) −160 C) −168 D) −147

32) $\frac{m}{-5} = 17$ 32) _____

A) −85 B) −22 C) −80 D) −68

33) $\frac{1}{4}x = 15$ 33) _____

A) 56 B) 45 C) 19 D) 60

34) $-\frac{1}{7}y = 16$ 34) _____

A) −112 B) −23 C) −96 D) −105

35) $\frac{9}{10}x = 27$ 35) _____

A) $\frac{261}{10}$ B) 30 C) $\frac{279}{10}$ D) $\frac{243}{10}$

36) $-\frac{1}{2}k = -10$ 36) _____

A) 5 B) 4 C) −2 D) 20

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37) $\frac{5}{6} = \frac{1}{2}x$ 37) _____

A) $\frac{5}{3}$ B) $\frac{3}{5}$ C) $\frac{12}{5}$ D) $\frac{5}{12}$

38) $-\frac{1}{5}z = \frac{1}{8}$ 38) _____

A) $-5\frac{1}{8}$ B) $\frac{5}{8}$ C) $-\frac{5}{8}$ D) $-\frac{8}{5}$

39) $\frac{4}{7}y = -\frac{4}{5}$ 39) _____

A) $-\frac{7}{5}$ B) $\frac{7}{5}$ C) $\frac{28}{5}$ D) $-\frac{5}{7}$

40) $\frac{8}{21}x = -\frac{8}{5}$ 40) _____

A) $-\frac{12}{35}$ B) $-\frac{7}{15}$ C) $-\frac{21}{5}$ D) $-\frac{35}{12}$

41) $-\frac{4}{21}y = -\frac{24}{35}$ 41) _____

A) $\frac{45}{8}$ B) $\frac{18}{5}$ C) $\frac{8}{45}$ D) $\frac{9}{10}$

42) $8.3x = 58.1$ 42) _____

A) 49.8 B) 7 C) $\frac{1}{7}$ D) 51.1

43) $53.4 = 8.9y$ 43) _____

A) 6 B) 44.5 C) 47.4 D) $\frac{1}{6}$

44) $-9.9y = 39.6$ 44) _____

A) -4 B) -35.6 C) $-\frac{1}{4}$ D) -29.7

45) $3.1t = -27.9$ 45) _____

A) $-\frac{1}{9}$ B) -24.8 C) -9 D) -18.9

46) $-37.6 = 9.4z$ 46) _____

A) -28.2 B) -33.6 C) $-\frac{1}{4}$ D) -4

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47) $-4.8m = -14.4$ 47) _____

A) 11.4 B) 9.6 C) $\frac{1}{3}$ D) 3

48) $39.2x = 274.4$ 48) _____

A) $\frac{1}{7}$ B) 7 C) 267.4 D) 235.2

49) $-48.3y = 821.1$ 49) _____

A) -804.1 B) -772.8 C) $-\frac{1}{17}$ D) -17

50) $18.3t = -91.5$ 50) _____

A) -86.5 B) -73.2 C) $-\frac{1}{5}$ D) -5

51) $-19.2m = -153.6$ 51) _____

A) 145.6 B) 8 C) $\frac{1}{8}$ D) 134.4

52) $\frac{1}{9}b = -3.00$ 52) _____

A) -27.00 B) 5.00 C) -3.00 D) 6.00

53) $-\frac{7}{3}x = -32.27$ 53) _____

A) 6.83 B) 16.39 C) 29.27 D) 13.83

54) $-\frac{3}{4}x = 9.12$ 54) _____

A) -12.16 B) -5.12 C) -8.96 D) -9.16

Solve.

55) $7r + 8 = 64$ 55) _____

A) 53 B) 1 C) 8 D) 49

56) $7n - 10 = 11$ 56) _____

A) 11 B) 3 C) 18 D) 14

57) $10 = 6x - 2$ 57) _____

A) 2 B) 3 C) 6 D) 10

58) $178 = 12x + 10$ 58) _____

A) 156 B) 14 C) 4 D) 160

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59) $9x + 5 = -22$ 59) _____

A) -3 B) -36 C) $-\frac{17}{9}$ D) -2

60) $4 + 10p = -6$ 60) _____

A) 1 B) $-\frac{3}{10}$ C) -1 D) $-\frac{1}{5}$

61) $-2x - 18 = -58$ 61) _____

A) 38 B) 20 C) -20 D) -38

62) $-9n - 3 = 78$ 62) _____

A) 76 B) 9 C) -72 D) -9

63) $-40 = -8x + 8$ 63) _____

A) 44 B) 40 C) 6 D) -6

64) $\frac{1}{5}f - 5 = 1$ 64) _____

A) -30 B) 30 C) -20 D) 20

65) $\frac{1}{4}a - \frac{1}{4} = -6$ 65) _____

A) 25 B) 23 C) -25 D) -23

66) $9x + 2x = 22$ 66) _____

A) $\frac{11}{9}$ B) 2 C) 11 D) $\frac{22}{9}$

67) $-3x - 7x = -60$ 67) _____

A) -50 B) 6 C) -6 D) 7

68) $8y - 15 = 3y$ 68) _____

A) 3 B) $-\frac{15}{11}$ C) $\frac{15}{11}$ D) -3

69) $6x + 5 = 3x + 26$ 69) _____

A) $\frac{7}{3}$ B) 9 C) $\frac{31}{9}$ D) 7

70) $5x - 1 = 77 - 8x$ 70) _____

A) $-\frac{76}{3}$ B) -26 C) 6 D) -6

71) $7y - 5 = 49 + y$ 71) _____

A) $\frac{11}{2}$ B) $\frac{22}{3}$ C) $\frac{27}{4}$ D) 9

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72) $12 - 10x = 3x - 2x - 65$ 72) _____

A) $\frac{53}{9}$ B) $\frac{65}{11}$ C) $\frac{65}{9}$ D) 7

73) $-6a + 3 + 7a = 5 - 28$ 73) _____

A) −36 B) 36 C) 26 D) −26

74) $-8b + 1 + 6b = -3b + 6$ 74) _____

A) −6 B) −1 C) 6 D) 5

75) $9x - 3 + 3x = 6x + 77 - 4x$ 75) _____

A) 9 B) 10 C) 8 D) 7

Solve. Clear fractions first.

76) $\frac{1}{3}y - 9 = 4$ 76) _____

A) −41 B) 41 C) −39 D) 39

77) $\frac{5}{3}y - 25 = -15$ 77) _____

A) −6 B) 6 C) 24 D) 2

78) $x + \frac{1}{2}x = 27$ 78) _____

A) 9 B) 18 C) 21 D) 54

79) $\frac{2}{5}x - \frac{1}{3}x = 3$ 79) _____

A) −45 B) 90 C) −90 D) 45

80) $\frac{1}{3}r + 2 = \frac{1}{6}r + \frac{4}{3}$ 80) _____

A) 4 B) −4 C) 3 D) −12

81) $\frac{3}{4} + \frac{1}{5}x = 2$ 81) _____

A) $\frac{15}{4}$ B) $-\frac{5}{4}$ C) $-\frac{4}{5}$ D) $\frac{25}{4}$

82) $\frac{3}{5} + 4y = 3y - \frac{4}{15}$ 82) _____

A) $-\frac{13}{15}$ B) $-\frac{1}{3}$ C) $\frac{13}{105}$ D) $-\frac{7}{15}$

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83) $\frac{3}{4}x - \frac{1}{3}x = \frac{5}{9}x + 1$ 83) _____

A) $-\frac{36}{5}$ B) $\frac{3}{2}$ C) $\frac{36}{35}$ D) $-\frac{1}{5}$

84) $x + \frac{2}{3} + \frac{9}{8}x = \frac{7}{2} + \frac{5}{4}x$ 84) _____

A) $\frac{70}{31}$ B) $\frac{25}{7}$ C) $\frac{68}{21}$ D) $\frac{68}{31}$

85) $\frac{17}{16}x + \frac{1}{16}x = 4x + \frac{1}{8} + \frac{15}{16}x$ 85) _____

A) $-\frac{1}{61}$ B) $-\frac{2}{61}$ C) $\frac{2}{67}$ D) $\frac{1}{61}$

Solve.

86) $4.6x + 13.8x = 257.6$ 86) _____

A) 16 B) 13 C) 15 D) 14

87) $13.3y - 4.9y = 117.6$ 87) _____

A) 14 B) 13 C) 16 D) 15

88) $9.7x - 14.8x = -96.9$ 88) _____

A) 21 B) 18 C) 20 D) 19

Solve. Clear decimals first.

89) $13.6t + 108.8 = 40.8t + 326.4$ 89) _____

A) −8 B) 32 C) 8 D) −32

90) $1.4x + 1.8 = -34.5 + 4.7x$ 90) _____

A) 7.7 B) 8.0 C) 11 D) −40

91) $1.1y + 2.7 = 0.7y + 0.86$ 91) _____

A) −5.06 B) 0.217 C) −4.7 D) −4.6

92) $-7.9q + 1.8 = -49.4 - 1.5q$ 92) _____

A) 8 B) 6.5 C) −58 D) 6.7

93) $19.5y - 136.5 = 27.3y - 191.1$ 93) _____

A) 14 B) −14 C) 7 D) −7

94) $5.34x + 37.38 = 12.46x + 87.22$ 94) _____

A) −28 B) 28 C) −7 D) 7

95) $5.12t - 40.96 = 8.96t - 71.68$ 95) _____

A) −8 B) 8 C) 24 D) −24

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96) $10.71y - 64.26 + 3.06y = 6.12y - 36.72 + 18.36$ 96) _____

A) -6 B) 6 C) 18 D) -18

Solve.

97) $4(x - 16) = 8$ 97) _____

A) 8 B) 18 C) 16 D) 14

98) $7x - (3x - 1) = 2$ 98) _____

A) $-\frac{1}{4}$ B) $\frac{1}{10}$ C) $\frac{1}{4}$ D) $-\frac{1}{10}$

99) $5(7x - 1) = 20$ 99) _____

A) $\frac{19}{35}$ B) $\frac{3}{7}$ C) $\frac{3}{5}$ D) $\frac{5}{7}$

100) $3(2z - 3) = 5(z + 5)$ 100) _____

A) 16 B) -16 C) 19 D) 34

101) $\frac{1}{3}(6x - 12) = \frac{1}{2}(8x - 4)$ 101) _____

A) -1 B) 1 C) -8 D) $\frac{1}{8}$

102) $(y - 9) - (y + 8) = 4y$ 102) _____

A) $-\frac{1}{4}$ B) $-\frac{1}{2}$ C) $-\frac{17}{2}$ D) $-\frac{17}{4}$

103) $4(6x - 10) = 2(20x - 12)$ 103) _____

A) 1 B) -8 C) $\frac{1}{8}$ D) -1

104) $5(x + 2) + 12 = 2(x + 5) + 9$ 104) _____

A) -1 B) 11 C) 13 D) 9

105) $9 - 6(x + 3) = 10 - 7(x + 2)$ 105) _____

A) 16 B) 5 C) 9 D) 23

106) $4[3 - 3(x + 1)] + 1 = 2(-43 - x) + 2x + 43$ 106) _____

A) $\frac{11}{6}$ B) 0 C) $\frac{11}{3}$ D) 11

107) $0.4(5x + 15) = 2.7 - (x + 3)$ 107) _____

A) $\frac{11}{30}$ B) $-\frac{40}{7}$ C) 11 D) $-\frac{21}{10}$

108) $5.3(x + 3.7) - 7.3 = 8(x + 1) - 10$ 108) _____

A) 15.3 B) 23.3 C) 7.3 D) 5.3

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109) $6.6 - 2.6(x + 4.4) = 9 - 5(x + 2)$ 109) _____

A) 5.6 B) 15.6 C) 10.6 D) 1.6

110) $5x - 2 + 7x - 6 = 7x + 5x + 8$ 110) _____

A) 0 B) All real numbers

C) No solution D) 8

111) $-12 + x = x - 12$ 111) _____

A) No solution B) All real numbers

C) 24 D) 0

112) $4(x + 6) - (4x + 24) = 0$ 112) _____

A) 6 B) 0

C) All real numbers D) No solution

113) $5(2f - 31) = 10f - 155$ 113) _____

A) All real numbers B) 0

C) 1 D) No solution

114) $2(4g - 19) - 8g + 38 = 0$ 114) _____

A) 4 B) -4

C) All real numbers D) No solution

115) $10k + 1 = 2(5k - 4)$ 115) _____

A) All real numbers B) No solution

C) -5 D) 5

116) $-6s + 28 + 2(3s - 10) = 0$ 116) _____

A) 3 B) No solution

C) All real numbers D) 1

117) $2[3 - (5 - 5r)] - r = -10 + 3(2 + 3r)$ 117) _____

A) -5 B) No solution

C) All real numbers D) 10

Evaluate the formula for the given values of the variables.

118) $P = 2L + 2W$; $L = 4$ in., $W = 3$ in. 118) _____

A) $P = 24$ in. B) $P = 7$ in. C) $P = 14$ in. D) $P = 48$ in.

119) $d = rt$; $r = 57$ miles per hour, $t = 5$ hours 119) _____

A) $d = 285$ miles B) $d = \frac{57}{5}$ miles C) $d = 570$ miles D) $d = 62$ miles

120) When all n teams in a league play every other team twice, a total of N games are played, where $N = n^2 - n$. A basketball league has 5 teams and all teams play each other twice. How many games are played? 120) _____

A) 30 games B) 20 games C) 5 games D) 15 games

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Solve.

121) $A = \frac{1}{2}bh$ for h

A) $h = \frac{Ab}{2}$ B) $h = \frac{A}{2b}$ C) $h = \frac{b}{2A}$ D) $h = \frac{2A}{b}$

122) $V = \frac{1}{3}Bh$ for h

A) $h = \frac{V}{3B}$ B) $h = \frac{3V}{B}$ C) $h = \frac{3B}{V}$ D) $h = \frac{B}{3V}$

123) $F = \frac{9}{5}C + 32$ for C

A) $C = \frac{5}{9}(F - 32)$ B) $C = \frac{5}{F - 32}$ C) $C = \frac{9}{5}(F - 32)$ D) $C = \frac{F - 32}{9}$

124) $a + b = s + r$ for s

A) $s = a + b - r$ B) $s = \frac{a}{r} + b$ C) $s = r(a + b)$ D) $s = \frac{a + b}{r}$

125) $x = \frac{w + y + z}{9}$ for y

A) $y = 9x - w - z$ B) $y = 9x + w + z$
C) $y = 9x - 9w - 9z$ D) $y = x - w - z - 9$

126) $V = 15s^3$ for s^3

A) $s^3 = V - 15$ B) $s^3 = \frac{V}{15}$ C) $s^3 = 15V$ D) $s^3 = \frac{15}{V}$

Solve the problem. Round to the nearest hundredth, if necessary.

127) What is 10% of 700?

A) 700 B) 7 C) 0.7 D) 70

128) What is 5% of 500?

A) 0.25 B) 2.5 C) 25 D) 250

129) What is 40% of 1111?

A) 4444 B) 44.44 C) 44,440 D) 444.4

130) What is 84% of 245?

A) 20,580 B) 205.8 C) 20.58 D) 2058

131) What number is 8.7% of 41?

A) 35.7 B) 3.57 C) 0.36 D) 357

132) What number is 4000% of 429?

A) 1,716,000 B) 171,600 C) 17,160 D) 1716

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133) What number is 140% of 389? 133) _____

A) 544.6 B) 54,460 C) 54.46 D) 5446

134) 77 is 90% of what number? 134) _____

A) 85.56 B) 855.6 C) 69.3 D) 8.56

135) 15 is 5% of what number? 135) _____

A) 3000 B) 75 C) 300 D) 30

136) 45% of what number is 75? 136) _____

A) 60 B) 0.6 C) 1666.7 D) 166.67

137) 50% of what number is 87? 137) _____

A) 17.4 B) 174 C) 43.5 D) 1740

138) 80 is 111% of what number? 138) _____

A) 720.7 B) 12,321 C) 123.21 D) 72.07

Solve the problem. Round to the nearest tenth of a percent.

139) 961 is what percent of 1679? 139) _____

A) 0.6% B) 174.7% C) 57.2% D) 0.1%

140) 934 is what percent of 789? 140) _____

A) 84.5% B) 118.4% C) 0.1% D) 1.2%

141) 4.1 is what percent of 23.2? 141) _____

A) 0.2% B) 5.7% C) 565.9% D) 17.7%

142) What percent of 2746 is 22? 142) _____

A) 8.0% B) 0.8% C) 18.0% D) 12,481.8%

143) What percent of 7 is 0.04? 143) _____

A) 0.6% B) 175.0% C) 5.7% D) 57.1%

144) What percent of 109 is 16.9? 144) _____

A) 0.2% B) 645.0% C) 0.1% D) 15.5%

145) What percent of 61 is 574? 145) _____

A) 0.1% B) 1.1% C) 941.0% D) 94.1%

146) 56.0 is what percent of 7? 146) _____

A) 8000.0% B) 1.3% C) 12.5% D) 800.0%

147) What percent of 29 is 29? 147) _____

A) 1% B) 100% C) 200% D) 0%

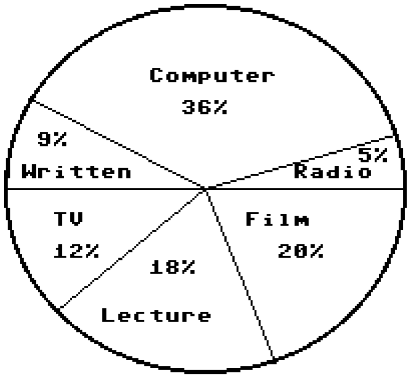
148) What percent of 110 is 55? 148) _____

A) 0% B) 200% C) 50% D) 2%

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Answer the question.

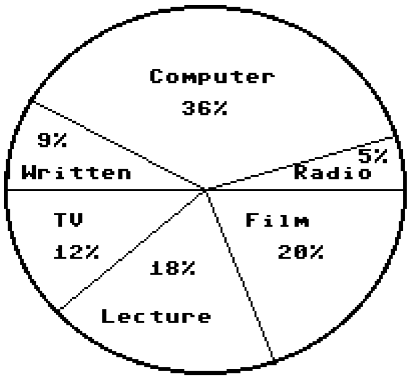
149) In a school survey, students showed these preferences for instructional materials. Answer the questi 149) _____



About how many students would you expect to prefer computers in a school of 700 students?

A) About 126 students
B) About 140 students
C) About 36 students
D) About 252 students

150) In a school survey, students showed these preferences for instructional materials. Answer the questi 150) _____



About how many students would you expect to prefer written materials in a school of 900 students?

A) About 162 students
B) About 9 students
C) About 324 students
D) About 81 students

Solve the problem.

151) The parking lot at a grocery store has 80 cars in it. 25% of the cars are blue. How many cars are blue? 151) _____

A) 20 cars
B) 320 cars
C) 200 cars
D) 32 cars

152) A chemical solution contains 8% salt. How much salt is in 3.5 mL of solution? 152) _____

A) 0.28 mL
B) 2.8 mL
C) 43.75 mL
D) 4.375 mL

153) During one year, the Larson's real estate bill included $429 for local schools. Of this amount, $210 went to the high school district. What percent did the Larsons pay to the high school district? (Round answer to two decimal places.) 153) _____

A) 48.72%
B) 21.00%
C) 48.95%
D) 51.05%

154) During one year, the Green's real estate bill included $303 for city services. The fire department received 14% of that amount. How much money went to the fire department? 154) _____

A) $22.42
B) $42.42
C) $4.24
D) $86.00

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155) During one year, the Cheung's real estate bill included $318 for county services. Of this amount, $ 44 went to the highway department. What percent did the county highway department receive? (Round answer to two decimal places.) 155) _____

A) 13.84% B) 86.16% C) 4.40% D) 13.52%

156) During one year, the Schmidt's real estate bill included $214 for miscellaneous services. Of this amount, 41% went to the library fund. How much money did the library receive? 156) _____

A) $87.74 B) $66.34 C) $67.74 D) $80.84

157) Sarah left a 15% tip of $6.15 for a meal. What was the cost of the meal before the tip? 157) _____

A) $47.15 B) $0.92 C) $12.30 D) $41.00

158) Andy left a 15% tip for a meal that cost $46. What was the total cost of the meal including the tip? 158) _____

A) $39.10 B) $59.80 C) $52.90 D) $6.90

159) Jennifer's annual salary increased from $20,000 to $44,000 over the last five years. Find the percent increase in her salary during this time period. Round to the nearest tenth of a percent. 159) _____

A) 1.2% B) 120.0% C) 54.5% D) 12.0%

160) On a biology test, a student got 25 questions correct but did not pass. On a second attempt, the student got 32 questions correct. What was the percent of increase? 160) _____

A) 72% B) 28% C) 21.9% D) 7%

161) Sales of frozen pizza for a club fund–raiser increased from 500 one year to 585 the next year. What was the percent of increase? 161) _____

A) 85.5% B) 17% C) 83% D) 14.5%

162) By switching service providers, a family's telephone bill decreased from about $50 a month to about $46. What was the percent of decrease? 162) _____

A) 4% B) 8% C) 9% D) 8.7%

163) Jennifer's annual salary was $23,000 last year and increased 35% this year. Find Jennifer's current annual salary. 163) _____

A) $26,950 B) $31,050 C) $39,100 D) $8050

164) The price of a printer was reduced from $400 to $260. What was the percent of decrease? 164) _____

A) 65% B) 40% C) 53.8% D) 35%

165) The normal gasoline mileage of a car is 48 mpg. On a smooth road, its mileage is 12% higher. What is its mileage on a smooth road? Round your answer to the nearest tenth. 165) _____

A) 48 mpg B) 53.8 mpg C) 50 mpg D) 5.8 mpg

166) Brand X copier has improved its copier so that it produces 17% more copies than its old model. If the old model ran 557 copies per hour, how many copies would the new model run? Round your answer to the nearest whole number. 166) _____

A) 637 copies per hour B) 652 copies per hour

C) 304 copies per hour D) 572 copies per hour

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167) After spending $2050 for tables and $4050 for chairs a convention center manager finds that the furniture cost 5% more than last year. Find the amount that he spent last year on tables and chairs. Round your answer to the nearest dollar. 167) _____

A) $4263 B) $305 C) $6421 D) $5810

168) Midtown Antiques has found that sales have decreased 2% from last year. Sales this year are $ 198,325. Find the amount of last year's sales. Round your answer to the nearest dollar. 168) _____

A) $203,372 B) $202,372 C) $202,362 D) $202,272

169) One half of a number is 3 more than one–sixth the same number. What is the number? 169) _____

A) 8 B) 9 C) 12 D) 18

170) The sum of two consecutive integers is –379. Find the larger integer. 170) _____

A) –188 B) –190 C) –191 D) –189

171) The sum of three consecutive integers is 348. Find the integers. 171) _____

A) 114, 115, 116 B) 116, 117, 118 C) 114, 116, 118 D) 115, 116, 117

172) The sum of three consecutive odd integers is 201. Find the integers. 172) _____

A) 67, 69, 71 B) 60, 61, 62 C) 69, 71, 73 D) 65, 67, 69

173) If three times the smaller of two consecutive integers is added to four times the larger, the result is 74. Find the smaller integer. 173) _____

A) 11 B) 10 C) 9 D) 30

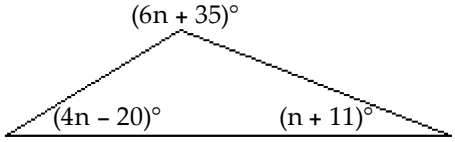
174) If the first and third of three consecutive odd integers are added, the result is 51 less than five times the second integer. Find the third integer. 174) _____

A) 15 B) 34 C) 19 D) 17

175) Two angles of a triangle are 10° and 30°. What is the measure of the third angle? 175) _____

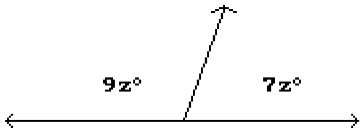
A) 50° B) 40° C) 140° D) 320°

176) Find the measure of each angle in the triangle. 176) _____



A) 36°, 119°, 25° B) 36°, 29°, 25° C) 56°, 84°, 14° D) 54°, 119°, 25°

177) Find the measures of the supplementary angles. 177) _____



A) 101.25° and 78.75° B) 50.63° and 39.38°
C) 202.5° and 157.5° D) 96.25° and 83.75°

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178) Find the length of a rectangular lot with a perimeter of 124 meters if the length is 4 meters more than the width. (P = 2L + 2W) 178) _____

A) 66 m B) 33 m C) 29 m D) 62 m

179) A square plywood platform has a perimeter which is 9 times the length of a side, decreased by 20. Find the length of a side. 179) _____

A) 1 B) 9 C) 5 D) 4

180) A rectangular Persian carpet has a perimeter of 220 inches. The length of the carpet is 22 inches more than the width. What are the dimensions of the carpet? 180) _____

A) 99 in., 121 in. B) 66 in., 88 in. C) 88 in., 110 in. D) 44 in., 66 in.

181) A pie–shaped (triangular) lake–front lot has a perimeter of 2000 feet. One side is 300 feet longer than the shortest side, while the third side is 500 feet longer than the shortest side. Find the lengths of all three sides. 181) _____

A) 500 ft, 800 ft, 1000 ft B) 100 ft, 200 ft, 300 ft

C) 500 ft, 500 ft, 500 ft D) 400 ft, 700 ft, 900 ft

182) If Gloria received a 3 percent raise and is now making $21,630 a year, what was her salary before the raise? Round to the nearest dollar if necessary. 182) _____

A) $20,981 B) $21,000 C) $19,630 D) $22,000

183) Stevie bought a stereo for $260 and put it on sale at his store at a 60% markup rate. What was the retail price of the stereo? Round to the nearest cent if necessary. 183) _____

A) $520.00 B) $316.00 C) $360.00 D) $416.00

184) On Monday, an investor bought 100 shares of stock. On Tuesday, the value of the shares went up 6%. How much did the investor pay for the 100 shares if he sold them Wednesday morning for $1378? Round to the nearest dollar if necessary. 184) _____

A) $1350 B) $1328 C) $1295 D) $1300

185) At the end of the day, a storekeeper had $1712 in the cash register, counting both the sale of goods and the sales tax of 7%. Find the amount that is the tax. Round to the nearest dollar if necessary. 185) _____

A) $120 B) $112 C) $103 D) $117

186) Brand X copier advertises that its copiers run 12% longer between service calls than its competitor. If Brand X copiers run 52,600 copies between service calls, how many copies would the competitor run (to the nearest copy)? 186) _____

A) 27,979 copies B) 46,288 copies C) 46,964 copies D) 58,912 copies

187) A high school graduating class is made up of 499 students. There are 147 more girls than boys. How many boys are in the class? 187) _____

A) 147 boys B) 323 boys C) 499 boys D) 176 boys

188) A baseball team played 171 complete games last season. They had 7 fewer wins than losses. How many games did the team win? 188) _____

A) 82 games B) 89 games C) 7 games D) 171 games

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189) On a road trip from New York to Los Angeles, Peter stopped in St. Louis which is 924 miles from New York. If St. Louis is 0.33 of the trip to Los Angeles, how far is it from New York to Los Angeles? 189) _____

A) 2800 miles B) 305 miles C) 957 miles D) 3049 miles

190) Every basketball season Pam competes in a free throw contest. This year Pam was successful at 0.75 of her free throws. If she succeeded at 9 free throws, how many free throws did she attempt? 190) _____

A) 68 free throws B) 12 free throws
C) 900.75 free throws D) 6.75 free throws

191) CopyMart charges $27 plus 45¢ per copy to produce promotional brochures. How many brochures can Steve purchase if he has a budget of $77.85? (Hint: 45¢ = $0.45) 191) _____

A) 123 brochures B) 17 brochures C) 113 brochures D) 47 brochures

192) Recently, the cost of 14 6–oz jars of baby food was $9.24. What was the cost of one jar? 192) _____

A) $0.33 B) $1.32 C) $1.98 D) $0.66

Solve.

193) The height of the tallest building in Anne's home town is 735 feet, which is about 390 feet taller than the tallest building in Laurie's home town. What is the height of the tallest building in Laurie's home town? 193) _____

A) 390 ft B) 458 ft C) 345 ft D) 1125 ft

194) The area of Mark's backyard is about 5 times the area of Jon's backyard. The area of Mark's backyard is 3430 ft^2. What is the area of Jon's backyard? 194) _____

A) 799 ft^2 B) 686 ft^2 C) 3425 ft^2 D) 3430 ft^2

195) A city government budgeted $28.2 million for public transportation. This was $14.4 million more than was budgeted for parks and recreation. How much was budgeted for parks and recreation? 195) _____

A) $17.8 million B) $14.8 million C) $13.8 million D) $13.3 million

196) Elaine was cooking dinner for some friends. She went out to do the shopping and spent $120. She spent twice as much on food as on drinks. How much did she spend on each? 196) _____

A) Drinks: $30; food: $60 B) Drinks: $40; food: $80
C) Drinks: $60; food: $120 D) Drinks: $30; food: $90

197) A 369–foot rope is cut into three pieces. The second piece is twice as long as the first. The third piece is 3 times as long as the second. How long is each piece of rope? 197) _____

A) First: 46 ft; second: 92 ft; third: 231 ft B) First: 62 ft; second: 123 ft; third: 369 ft
C) First: 46 ft; second: 92 ft; third: 277 ft D) First: 41 ft; second: 82 ft; third: 246 ft

198) A car rental business rents a compact car at a daily rate of $28.20 plus 20¢ per mile. Mike can afford to spend $73 on the car rental for one day. How many miles can he drive and stay within his budget? (Hint: 20¢ = $0.20) 198) _____

A) 219 mi B) 224 mi C) 214 mi D) 229 mi

199) You are traveling to your aunt's house that is 192 miles away. If you are currently twice as far from home as you are from your aunt's, how far have you traveled? 199) _____

A) 32.0 mi B) 96.0 mi C) 128 mi D) 64 mi

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200) Alex sold his used electric saw and accessories for $336. If he received five times as much money for the electric saw as he did for the accessories, how much did he receive for the electric saw? 200) _____

A) $66 B) $1680 C) $56 D) $280

201) In West Arlington, taxis charge $4.50 plus 75¢ per mile for an airport pickup. How far from the airport can Amy travel for $30.00? (Hint: 75¢ = $0.75) 201) _____

A) 22.5 mi B) 80 mi C) 40 mi D) 34 mi

202) Bill needs an average of 80 on four tests in science to make the honor roll. What is the lowest score he can receive on the fourth test if his first three scores are 84, 65, and 80? 202) _____

A) 76.3 B) 80 C) 91 D) 77.3

Determine whether the given number is a solution of the inequality.

203) $x > -4, 14$ 203) _____

A) No B) Yes

204) $x > 3, \ 1$ 204) _____

A) No B) Yes

205) $x < 11, 5.88$ 205) _____

A) No B) Yes

206) $x > 2, 1.04$ 206) _____

A) Yes B) No

207) $x \geq 1, 9$ 207) _____

A) No B) Yes

208) $x \geq 7, -7.33$ 208) _____

A) No B) Yes

209) $x \leq 5, -5.3$ 209) _____

A) No B) Yes

210) $x \leq -14, 0.09$ 210) _____

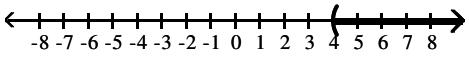
A) Yes B) No

Graph the inequality.

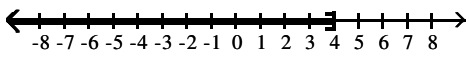
211) $x > 4$ 211) _____



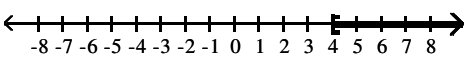
A)



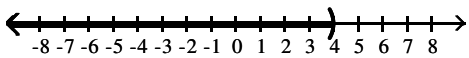
B)



C)

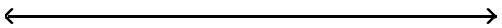


D)

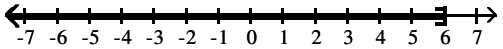


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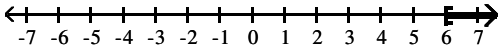
212) $x < 6$ 212) _____



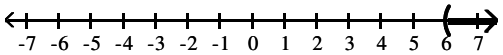
A)



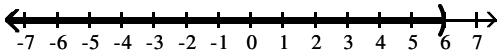
B)



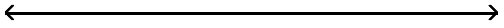
C)



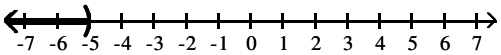
D)



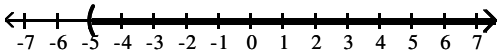
213) $x \geq -5$ 213) _____



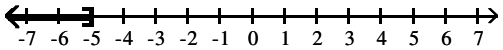
A)



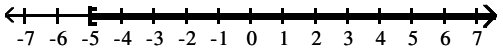
B)



C)



D)

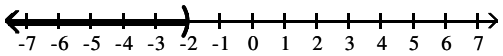


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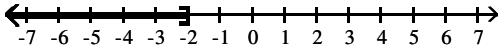
214) $x \leq -2$ 214) _____



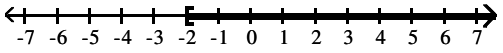
A)



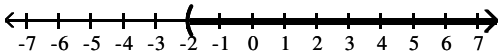
B)



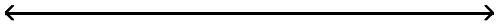
C)



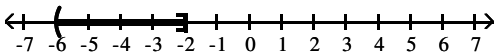
D)



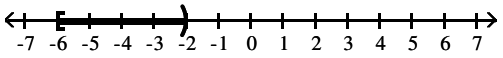
215) $-6 \leq x \leq -2$ 215) _____



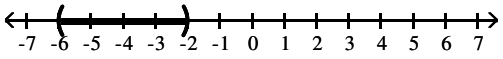
A)



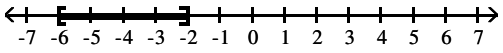
B)



C)



D)

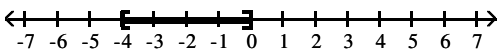


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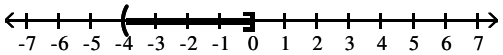
216) $-4 < x < 0$ 216) _____



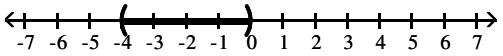
A)



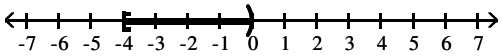
B)



C)



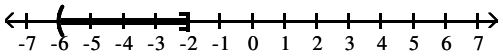
D)



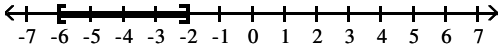
217) $-6 \le x < -2$ 217) _____



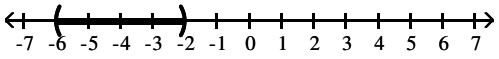
A)



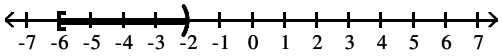
B)



C)



D)



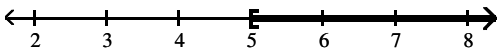
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Solve using the addition principle. Graph and write set–builder notation for the answer.

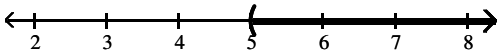
218) $a + 11 < 16$ 218) _____



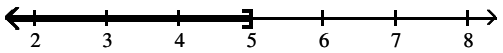
A) $\{a \mid a \geq 5\}$



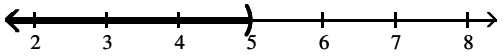
B) $\{a \mid a > 5\}$



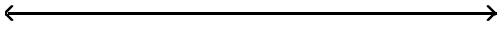
C) $\{a \mid a \leq 5\}$



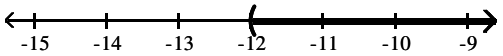
D) $\{a \mid a < 5\}$



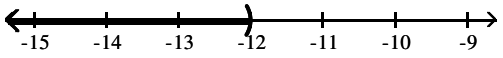
219) $-2n - 7 > -3n - 19$ 219) _____



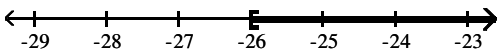
A) $\{n \mid n > -12\}$



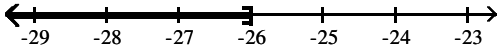
B) $\{n \mid n < -12\}$



C) $\{n \mid n \geq -26\}$

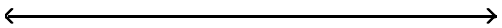


D) $\{n \mid n \leq -26\}$

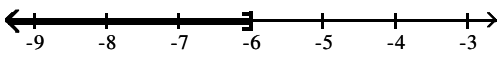


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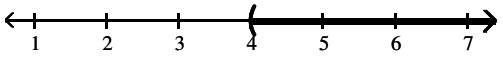
220) $4t - 3 \geq 3t - 9$ 220) _____



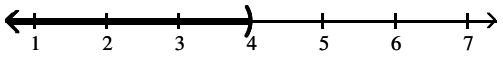
A) $\{t \mid t \leq -6\}$



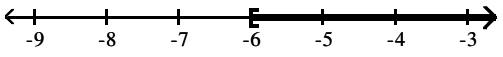
B) $\{t \mid t > 4\}$



C) $\{t \mid t < 4\}$



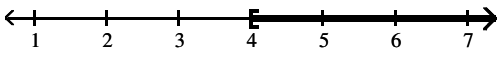
D) $\{t \mid t \geq -6\}$



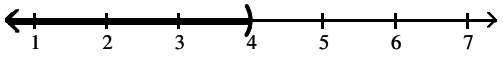
221) $f + 5 < 9$ 221) _____



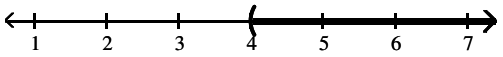
A) $\{f \mid f \geq 4\}$



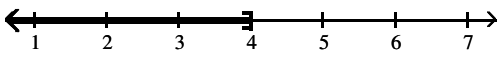
B) $\{f \mid f < 4\}$



C) $\{f \mid f > 4\}$



D) $\{f \mid f \leq 4\}$

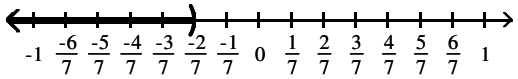


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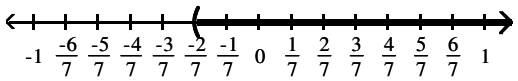
222) $x - \frac{1}{7} > -\frac{4}{7}$ 222) _____



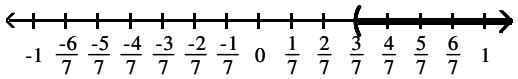
A) $\left\{x \mid x < -\frac{2}{7}\right\}$



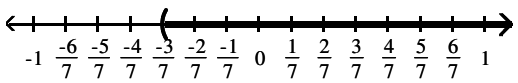
B) $\left\{x \mid x > -\frac{3}{7}\right\}$



C) $\left\{x \mid x > \frac{3}{7}\right\}$

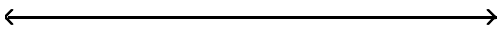


D) $\left\{x \mid x > -\frac{3}{7}\right\}$

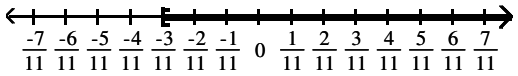


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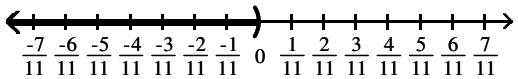
223) $x - \frac{1}{11} \geq -\frac{4}{11}$ 223) _____



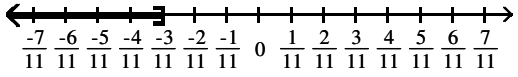
A) $\left\{x \mid x \geq -\frac{3}{11}\right\}$



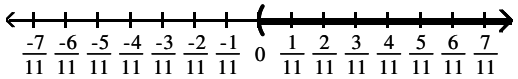
B) $\{x \mid x < 0\}$



C) $\left\{x \mid x \leq -\frac{3}{11}\right\}$



D) $\{x \mid x > 0\}$



Solve using the multiplication principle.

224) $2a \geq 6$ 224) _____

A) $\{a \mid a > 3\}$ B) $\{a \mid a < 3\}$ C) $\{a \mid a \leq 3\}$ D) $\{a \mid a \geq 3\}$

225) $-3b < -6$ 225) _____

A) $\{b \mid b > 2\}$ B) $\{b \mid b < -2\}$ C) $\{b \mid b > -2\}$ D) $\{b \mid b < 2\}$

226) $3a \leq -15$ 226) _____

A) $\{a \mid a \leq 5\}$ B) $\{a \mid a \geq -5\}$ C) $\{a \mid a \geq 5\}$ D) $\{a \mid a \leq -5\}$

227) $-4k < \frac{1}{6}$ 227) _____

A) $\left\{k \mid k < \frac{1}{24}\right\}$ B) $\left\{k \mid k > \frac{1}{24}\right\}$ C) $\left\{k \mid k > -\frac{1}{24}\right\}$ D) $\left\{k \mid k < -\frac{1}{24}\right\}$

228) $-3n < -\frac{1}{6}$ 228) _____

A) $\left\{n \mid n < -\frac{1}{18}\right\}$ B) $\left\{n \mid n > -\frac{1}{18}\right\}$ C) $\left\{n \mid n < \frac{1}{18}\right\}$ D) $\left\{n \mid n > \frac{1}{18}\right\}$

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229) $-2x < -\frac{3}{7}$ 229) _____

A) $\left\{x \mid x < -\frac{1}{7}\right\}$ B) $\left\{x \mid x > \frac{3}{14}\right\}$ C) $\left\{x \mid x < -\frac{3}{14}\right\}$ D) $\left\{x \mid x > -\frac{1}{7}\right\}$

230) $\frac{2}{7} > -2x$ 230) _____

A) $\left\{x \mid x < \frac{1}{7}\right\}$ B) $\left\{x \mid x > \frac{3}{7}\right\}$ C) $\left\{x \mid x < \frac{3}{7}\right\}$ D) $\left\{x \mid x > -\frac{1}{7}\right\}$

Solve using the addition and multiplication principles.

231) $10 + 3x < 30$ 231) _____

A) $\left\{x \mid x < \frac{20}{3}\right\}$ B) $\left\{x \mid x < -\frac{40}{3}\right\}$ C) $\left\{x \mid x > \frac{20}{3}\right\}$ D) $\left\{x \mid x > -\frac{40}{3}\right\}$

232) $11y + 1 > 10y + 7$ 232) _____

A) $\{y \mid y > 8\}$ B) $\{y \mid y < 6\}$ C) $\{y \mid y < 8\}$ D) $\{y \mid y > 6\}$

233) $-7y + 8 \le -8y + 17$ 233) _____

A) $\{y \mid y \le 9\}$ B) $\{y \mid y < -7\}$ C) $\{y \mid y \ge 9\}$ D) $\{y \mid y > -7\}$

234) $11x + 11 \ge 10x + 7$ 234) _____

A) $\{x \mid x \le -4\}$ B) $\{x \mid x \ge -4\}$ C) $\{x \mid x > 11\}$ D) $\{x \mid x < 11\}$

235) $-10x - 10 \ge -9x + 2$ 235) _____

A) $\{x \mid x \le -10\}$ B) $\{x \mid x > -10\}$ C) $\{x \mid x \le -12\}$ D) $\{x \mid x \ge 12\}$

236) $-8 - 11y - 9 \ge -12y - 18$ 236) _____

A) $\{y \mid y > -11\}$ B) $\{y \mid y < -11\}$ C) $\{y \mid y \ge -1\}$ D) $\{y \mid y \le -1\}$

237) $0.6x + 15 + x > 2x + 11 - 0.5x$ 237) _____

A) $\{x \mid x \ge 4\}$ B) $\{x \mid x < 4\}$ C) $\{x \mid x > -40\}$ D) $\{x \mid x < -40\}$

238) $\frac{x}{2} + 9 \le 10$ 238) _____

A) $\{x \mid x \le 1\}$ B) $\{x \mid x < 4\}$ C) $\{x \mid x \le 2\}$ D) $\{x \mid x \ge 2\}$

239) $18x + 21 > 3(5x + 9)$ 239) _____

A) $\{x \mid x \le 2\}$ B) $\{x \mid x \ge 2\}$ C) $\{x \mid x > 2\}$ D) $\{x \mid x < 2\}$

240) $1 - \frac{3}{2}x + 3 > \frac{x}{2} + \frac{1}{2}$ 240) _____

A) $\left\{x \mid x > \frac{7}{2}\right\}$ B) $\left\{x \mid x < \frac{7}{4}\right\}$ C) $\left\{x \mid x > -\frac{5}{4}\right\}$ D) $\left\{x \mid x < \frac{9}{4}\right\}$

Translate the sentence to an inequality.

241) A number is greater than 10. 241) _____

A) $x > 10$ B) $x \ge 10$ C) $x \le 10$ D) $x < 10$

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242) A number is less than or equal to 8. 242) _____

A) $x \geq 8$ B) $x < 8$ C) $x \leq 8$ D) $x > 8$

243) John weighs at least 124 pounds. 243) _____

A) $x < 124$ B) $x > 124$ C) $x \leq 124$ D) $x \geq 124$

244) The score on a test was between 81 and 62. 244) _____

A) $81 < x < 62$ B) $62 < x < 81$ C) $x < 81$ D) $x > 62$

245) The cost is no more than $332.59. 245) _____

A) $x > 332.59$ B) $x \leq 332.59$ C) $x \geq 332.59$ D) $x < 332.59$

246) The number of people at a concert is not to exceed 3943. 246) _____

A) $x \geq 3943$ B) $x < 3943$ C) $x \leq 3943$ D) $x > 3943$

247) The height of a member of the basketball team is at least 80 inches. 247) _____

A) $x < 80$ B) $x \leq 80$ C) $x \geq 80$ D) $x > 80$

248) Four times a number less twenty–six must be more than fifty. 248) _____

A) $4(x - 26) > 50$ B) $4x - 26 \geq 50$ C) $4(x - 26) \geq 50$ D) $4x - 26 > 50$

249) Two added to half of a number is at most eight. 249) _____

A) $\frac{1}{2}x + 2 < 8$ B) $\frac{1}{2}x + 2 \leq 8$ C) $\frac{1}{2}x + 2 \geq 8$ D) $\frac{1}{2}x + 2 > 8$

Solve the problem.

250) A salesperson has two job offers. Company A offers a weekly salary of $240 plus commission of 8% of sales. Company B offers a weekly salary of $480 plus commission of 4% of sales. What is the amount of sales above which Company A's offer is the better of the two? 250) _____

A) $12,000 B) $3000 C) $6000 D) $6100

251) Company A rents copiers for a monthly charge of $300 plus 10 cents per copy. Company B rents copiers for a monthly charge of $600 plus 5 cents per copy. What is the number of copies above which Company A's charges are the higher of the two? 251) _____

A) 3000 copies B) 6100 copies C) 12,000 copies D) 6000 copies

252) A car rental company has two rental rates. Rate 1 is $63 per day plus $.14 per mile. Rate 2 is $126 per day plus $.07 per mile. If you plan to rent for one week, how many miles would you need to drive to pay less by taking Rate 2? 252) _____

A) more than 88,200 miles B) more than 44,800 miles

C) more than 6300 miles D) more than 22,050 miles

253) Jim has gotten scores of 78 and 69 on his first two tests. What score must he get on his third test to keep an average of 70 or greater? 253) _____

A) At least 73.5 B) At least 72.3 C) At least 62 D) At least 63

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254) A bag of marbles has twice as many blue marbles as green marbles, and the bag has at least 42 marbles in it. At least how many green marbles does it have? 254) _____

A) At least 15 green marbles
B) At least 14 green marbles
C) At least 21 green marbles
D) At least 28 green marbles

255) Jon has 766 points in his math class. He must have 68% of the 1400 points possible by the end of the term to receive credit for the class. What is the minimum number of additional points he must earn by the end of the term to receive credit for the class? 255) _____

A) 634 points B) 186 points C) 952 points D) 521 points

256) DG's Plumbing and Heating charges $50 plus $65 per hour for emergency service. Bill remembers being billed just over $300 for an emergency call. How long to the nearest hour was the plumber at Bill's house? 256) _____

A) 14 hours B) 4 hours C) 12 hours D) 5 hours

257) A 9–pound puppy is gaining weight at a rate of $\frac{2}{3}$ lb per week. How much more time will it take for the puppy's weight to exceed $35\frac{2}{3}$ lb? 257) _____

A) more than $25\frac{1}{4}$ week(s)
B) more than 41 weeks
C) more than 40 weeks
D) more than 67 weeks

258) In order for a chemical reaction to take place, the Fahrenheit temperature of the reagents must be at least 118.51°F. Find the Celsius temperatures at which the reaction may occur. ($F = \frac{9}{5}C + 32$) 258) _____

A) $C < 245.32°$ B) $C \le 48.06°$ C) $C \ge 245.32°$ D) $C \ge 48.06°$

259) In order for a chemical reaction to remain stable, its Celsius temperature must be no more than 63.81°C. Find the Farenheit temperatures at which the reaction will remain stable. ($F = \frac{9}{5}C + 32$) 259) _____

A) $F \le 17.67°$ B) $F \ge 146.86°$ C) $F \le 146.86°$ D) $F \ge 17.67°$

260) The equation $y = 0.002x - 0.40$ can be used to determine the approximate profit, y in dollars, of producing x items. How many items must be produced so the profit will be at least $3970? 260) _____

A) $x \le 1{,}985{,}200$
B) $0 < x \le 1{,}985{,}199$
C) $x \ge 1{,}985{,}200$
D) $x \ge 1{,}984{,}800$

261) If the formula $R = -0.037t + 50.1$ can be used to predict the world record in the 400–meter dash t years after 1925, for what years will the world records be 48.6 seconds or less? 261) _____

A) 1967 or after B) 1966 or after C) 1941 or after D) 1965 or after

262) If the formula $P = 0.5643Y - 1092.57$ can be used to predict the average price of a theater ticket after 1945, for what years will the average theater ticket price be at least 40 dollars? (Y is the actual year.) 262) _____

A) 2006 or after B) 2010 or after C) 2018 or after D) 2008 or after

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263) One side of a rectangle is 11 inches and the other side is x inches. What values of x will make the perimeter at least 46? 263) _____

A) $x \le 12$ B) $0 < x \le 12$ C) $x < 12$ D) $x \ge 12$

264) One side of a rectangle is 7 inches and the other side is x inches. What values of x will make the perimeter at most 22? 264) _____

A) $x \le 4$ B) $x \ge 4$ C) $0 < x \le 4$ D) $x < 4$

265) One side of a rectangle is 2 times the other, and the perimeter is not to exceed 60. Find the possible values for x, the length of the shorter side. 265) _____

A) $x \ge 20$ B) $0 < x \le 10$ C) $x \le 10$ D) $0 < x \le 20$

266) One side of a triangle is 2 cm shorter than the base, x. The other side is 4 cm longer than the base. What lengths of the base will allow the perimeter of the triangle to be at least 38 cm? 266) _____

A) $0 < x \le 12$ B) $x \ge 12$ C) $x \le 16$ D) $x > 10$

267) One side of a rectangle is 9 inches and the other side is x inches. Find the value of x if the area must be at least 108 square inches. 267) _____

A) $0 < x \le 12$ B) $x \le 12$ C) $x = 12$ D) $x \ge 12$

268) The area of a triangle must be at most 24 square inches, the base is 6 inches, and the height is x inches. Find the possible values for x. 268) _____

A) $0 < x \le 4$ B) $x < 8$ C) $0 < x \le 8$ D) $0 < x \le 16$

269) The color guard is making new triangular flags that must have a base of 18 inches to fit on their flagpoles. What is the maximum length of the triangular flags, if they want to use a maximum of 351 $in.^2$ of cloth? 269) _____

A) 78 in. B) 41 in. C) 19.5 in. D) 39 in.

270) A shop keeper is making a triangular sign for his store front, but he must keep the sign under 20 ft^2 to adhere to zoning laws. If the base of the sign is 4 ft, what is the maximum height of the triangular sign? 270) _____

A) 2.500 ft B) 36 ft C) 5.00 ft D) 10.0 ft

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Provide an appropriate response.

271) True or false: The solution of the equation $7y - 6 = 7y + 3$ is zero. 271) _____

272) The solution for the equation $9(2s - 3) = 18s - 27$ is given as 0. Is this correct? Explain. 272) _____

273) Write the steps you would use to solve this equation: $2(x - 1) + 2x = -5x$. 273) _____

274) What value of K makes this equation equivalent to $x = 3$? 274) _____

$8x - 8 = K$

275) What value of K makes this equation equivalent to $x = 3$? 275) _____

$$\frac{9}{K + x} = 3$$

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276) What value of K makes this equation equivalent to $x = 2$? 276) _____
$9x + 16x - 6 = K + 9$

277) Find all values of s that make this statement true: $5(5s - 6) = 25s - 30$. 277) _____

278) Find all values of x that make this statement true: $(x + 5) + 7 = (x + 7) + 5$. 278) _____

279) Express three consecutive integers, all in terms of x, if x is the largest integer. 279) _____

280) One number is twice another. If the larger number is m, how do you express the other number in terms of m? 280) _____

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1) B
2) B
3) A
4) A
5) B
6) B
7) C
8) C
9) D
10) D
11) D
12) A
13) C
14) D
15) B
16) D
17) A
18) B
19) C
20) C
21) C
22) A
23) C
24) D
25) B
26) A
27) B
28) A
29) C
30) B
31) C
32) A
33) D
34) A
35) B
36) D
37) A
38) C
39) A
40) C
41) B
42) B
43) A
44) A
45) C
46) D
47) D
48) B
49) D
50) D

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51) B
52) A
53) D
54) A
55) C
56) B
57) A
58) B
59) A
60) C
61) B
62) D
63) C
64) B
65) D
66) B
67) B
68) A
69) D
70) C
71) D
72) D
73) D
74) D
75) C
76) D
77) B
78) B
79) D
80) B
81) D
82) A
83) A
84) C
85) B
86) D
87) A
88) D
89) A
90) C
91) D
92) A
93) C
94) C
95) B
96) B
97) B
98) C
99) D
100) D

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101) A
102) D
103) D
104) A
105) B
106) C
107) D
108) D
109) D
110) C
111) B
112) C
113) A
114) C
115) B
116) B
117) C
118) C
119) A
120) B
121) D
122) B
123) A
124) A
125) A
126) B
127) D
128) C
129) D
130) B
131) B
132) C
133) A
134) A
135) C
136) D
137) B
138) D
139) C
140) B
141) D
142) B
143) A
144) D
145) C
146) D
147) B
148) C
149) D
150) D

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151) A
152) A
153) C
154) B
155) A
156) A
157) D
158) C
159) B
160) B
161) B
162) B
163) B
164) D
165) B
166) B
167) D
168) B
169) B
170) D
171) D
172) D
173) B
174) C
175) C
176) A
177) A
178) B
179) D
180) D
181) D
182) B
183) D
184) D
185) B
186) C
187) D
188) A
189) A
190) B
191) C
192) D
193) C
194) B
195) C
196) B
197) D
198) B
199) C
200) D

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201) D
202) C
203) B
204) A
205) B
206) B
207) B
208) A
209) B
210) B
211) A
212) D
213) D
214) B
215) D
216) C
217) D
218) D
219) A
220) D
221) B
222) D
223) A
224) D
225) A
226) D
227) C
228) D
229) B
230) D
231) A
232) D
233) A
234) B
235) C
236) C
237) C
238) C
239) C
240) B
241) A
242) C
243) D
244) B
245) B
246) C
247) C
248) D
249) B
250) C

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251) D
252) C
253) D
254) B
255) B
256) B
257) C
258) D
259) C
260) C
261) B
262) D
263) D
264) C
265) B
266) B
267) D
268) C
269) D
270) D
271) False. It has no solution.
272) No. The solution is all real numbers. Explanations will vary.
273) Answers will vary.
274) 16
275) 0
276) 35
277) s can be any value, including 0.
278) x can be any value, including 0.
279) x – 2, x – 1, x
280) $\frac{m}{2}$ or $\frac{1}{2}$ m

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