# Test Bank for Introductory Algebra 12th Edition Bittinger Beecher Johnson 0321867963 9780321867964
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# Solution Manual:
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**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) $3x = 24; 4$ 1)
A) No B) Yes

2) $\frac{x}{8}=5;40$ 2)
A) Yes B) No

3) $p + 13 = 20;\ 7$ 3)
A) Yes B) No

4) $p - 6 = 5;\ 11$ 4)
A) Yes B) No

5) $5m + 5 = 42;\ 7$ 5)
A) Yes B) No

6) $5p + 3p - 2 = 62;\ 8$ 6)
A) No B) Yes

**Solve the equation using the addition principle.**

7) $x - 7 = -6$ 7)
A) 13 B) 1 C) -13 D) -1

8) $b + 3 = 6$ 8)
A) -9 B) 3 C) -3 D) 9

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

10) $-18 = a - 24$ 10)
A) 42 B) -6 C) -42 D) 6

11) $x - 19.33 = 0$ 11)
A) -18.33 B) 19.33 C) 18.33 D) -19.33

12) $-7 + x = 18$ 12)
A) -25 B) -11 C) 11 D) 25

13)24 = -12 + z 13) _____

A) -12 B) -36 C) 36 D) 12

14)-19.5 = 24.5 + x 14) _____

A) 5 B) 44 C) -5 D) -44

15) $\frac{1}{2} + x = 4$ 15) _____

A) $\frac{7}{2}$ B) 7 C) $\frac{3}{2}$ D) $\frac{9}{2}$

16) $h + \frac{3}{11} = \frac{6}{11}$ 16) _____

A) $\frac{5}{11}$ B) $\frac{3}{11}$ C) 3 D) $\frac{9}{11}$

17) $k - \frac{3}{5} = \frac{9}{10}$ 17) _____

A) $\frac{3}{2}$ B) $\frac{4}{5}$ C) $\frac{3}{10}$ D) 3

18) $x + 1\frac{2}{3} = 4$ 18) _____

A) 7 B) $\frac{17}{3}$ C) $\frac{11}{3}$ D) $\frac{7}{3}$

19) $x - \frac{9}{10} = -\frac{2}{5}$ 19) _____

A) $\frac{13}{10}$ B) $-\frac{13}{10}$ C) $\frac{1}{2}$ D) $-\frac{1}{2}$

**Solve using the multiplication principle.**

20) $9x = 90$ 20)

A) 81 B) 10 C) 810 D) $\frac{1}{10}$

21) $45 = 9x$ 21) _____

A) 405 B) 5 C) $\frac{1}{5}$ D) 36

22) $-x = -20$ 22) _____

A) -19 B) -20 C) $-\frac{1}{20}$ D) 20

23) $-9a = 36$ 23) _____

A) -4 B) -45 C) 1 D) 45

24) $18 = -2k$ 24) _____

A) -20 B) 1 C) 20 D) -9

25) $-8x = -24$ 25) _____

A) 2 B) -16 C) 16 D) 3

26) $-2b = 22$ 26) _____

A) -24 B) 1 C) -11 D) 24

27) $-60 = 4z$ 27) _____

A) 1 B) -64 C) 64 D) -15

28) $-96 = -6n$ 28) _____

A) 90 B) -90 C) 2 D) 16

29) $-4s = -44$ 29) _____

A) 40 B) 11 C) -40 D) 2

30) $\frac{x}{5} = 11$ 30) _____

A) 55 B) 44 C) 50 D) 16

31) $\frac{-t}{8} = 11$ 31) _____

A) -80 B) -19 C) -77 D) -88

32) $\frac{m}{-6} = 25$ 32) _____

A) -150 B) -144 C) -31 D) -125

33) $\frac{1}{5}x = 14$ 33) _____

A) 19 B) 65 C) 56 D) 70

34) $-\frac{1}{4}y = 18$ 34) _____

A) -72 B) -54 C) -68 D) -22

35) $\frac{4}{5}x = 8$ 35) _____

A) $\frac{36}{5}$ B) 10 C) $\frac{44}{5}$ D) $\frac{32}{5}$

36) $-\frac{1}{5}k = -4$ 36) _____

A) 7 B) -5 C) 8 D) 20

37) $\frac{1}{8} = \frac{6}{11}x$ 37) _____

A) $\frac{11}{48}$ B) $\frac{48}{11}$ C) $\frac{3}{44}$ D) $\frac{44}{3}$

38) $-\frac{1}{8}z = \frac{1}{9}$ 38)

A) $\frac{8}{9}$ B) $-\frac{8}{9}$ C) $-\frac{9}{8}$ D) $-8\frac{1}{9}$

39) $-\frac{8}{9}t = \frac{5}{7}$ 39) _____

A) $\frac{45}{56}$ B) $\frac{56}{-45}$ C) $-\frac{45}{56}$ D) $\frac{45}{7}$

40) $\frac{8}{63}x = -\frac{16}{21}$ 40) _____

A) $-\frac{32}{27}$ B) $\frac{3}{-2}$ C) $-6$ D) $\frac{27}{-32}$

41) $-\frac{4}{21}y = -\frac{8}{45}$ 41) _____

A) $\frac{24}{35}$ B) 24 C) 21 D) 14

42) $6.5x = 19.5$ 42) _____

A) 3 B) 13 C) 16.5 D) $\frac{1}{3}$

43) $59.5 = 8.5y$ 43) _____

A) $\frac{1}{7}$ B) 51 C) 52.5 D) 7

44) $-5.8y = 46.4$ 44) _____

A) $-40.6$ B) $\frac{1}{-8}$ C) $-38.4$ D) $-8$

45) $3.1t = -12.4$ 45) _____

A) $-8.4$ B) $\frac{1}{-4}$ C) $-4$ D) $-9.3$

46) $-61.2 = 6.8z$ 46) _____

A) $-9$ B) $-\frac{1}{9}$ C) $-54.4$ D) $-52.2$

47) $-7.3m = -21.9$ 47) _____

A) 18.9 B) $\frac{1}{3}$ C) 3 D) 14.6

48) $41.1x = 575.4$ 48) _____

A) 534.3 B) 561.4 C) 14 D) $\frac{1}{14}$

49) $-13.9y = 55.6$ 49) _____

A) -41.7 B) $-\frac{1}{4}$ C) -51.6 D) -4

50) $45.8t = -641.2$ 50) _____

A) -627.2 B) $-\frac{1}{14}$ C) -595.4 D) -14

51) $-44.9m = -583.7$ 51) _____

A) 570.7 B) 13 C) $\frac{1}{13}$ D) 538.8

52) $\frac{1}{5}b = -3.51$ 52) _____

A) -2.00 B) 0.49 C) -17.55 D) 1.49

53) $-\frac{5}{8}x = -30.8$ 53) _____

A) 49.28 B) 22.8 C) 33.84 D) 44.28

54) $-\frac{7}{4}x = 52.85$ 54) _____

A) -20.45 B) -48.85 C) -23.2 D) -30.2

**Solve.**

55) $6r + 2 = 56$ 55) _____

A) 7 B) 9 C) 48 D) 52

56) $7n - 9 = 5$ 56) _____

A) 7 B) 11 C) 2 D) 9

57) $25 = 8x - 7$ 57) _____

A) 28 B) 10 C) 24 D) 4

58) $152 = 11x + 20$ 58) _____

A) 125 B) 121 C) 6 D) 12

59) $7x + 6 = -15$ 59) _____

A) $-\frac{9}{7}$ B) -2 C) -3 D) -28

60) $9 - 5p = -7$ 60) _____

A) $-\frac{16}{5}$ B) $-\frac{2}{5}$ C) $\frac{1}{-5}$ D) $\frac{16}{5}$

61) $-6x - 11 = -131$ 61) _____

A) $\frac{71}{3}$ B) -20 C) -114 D) 20

62) $-9n - 2 = 34$ 62) _____

A) -4 B) 31 C) 4 D) -27

63) $-17 = -2x + 1$ 63) _____

A) 16 B) 20 C) -9 D) 9

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

A) -8 B) -30 C) 30 D) 8

65) $\frac{1}{2}a - \frac{1}{2} = -3$ 65) _____

A) -7 B) 5 C) -5 D) 7

66) $12x + 7x = 114$ 66) _____

A) 6 B) 95 C) $\frac{19}{14}$ D) $\frac{19}{2}$

67) $-5x - 8x = 65$ 67) _____

A) -4 B) 5 C) -5 D) 78

68) $6y + 4 = 4y$ 68) _____

A) $\frac{2}{5}$ B) -2 C) 2 D) $\frac{2}{-5}$

69) $9x + 4 = 2x + 53$ 69) _____

A) $\frac{49}{11}$ B) $\frac{57}{11}$ C) 7 D) 9

70) $9x - 2 = 142 - 7x$ 70) _____

A) 70 B) 72 C) -9 D) 9

71) $8y - 5 = 58 + y$ 71) _____

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

72) $1 - 10x = 5x - 8x - 20$ 72) _____

A) $\frac{20}{7}$ B) 3 C) $\frac{20}{13}$ D) $\frac{19}{13}$

73) $-7a + 5 + 8a = 6 - 29$ 73) _____

A) -28 B) -40 C) 28 D) 40

74) $-9b + 1 + 7b = -3b + 6$ 74) _____

A) -1 B) -6 C) 6 D) 5

75) $8x - 5 + 8x = 5x + 21 - 2x$ 75) _____

A) 3 B) 2 C) 4 D) 1

**Solve. Clear fractions first.**

76) $\frac{1}{18} y - 1 = 2$ 76) _____

A) 56 B) -56 C) 54 D) -54

77) $\frac{5}{3} y - 15 = -10$ 77) _____

A) 15 B) -3 C) 1 D) 3

78) $x + \frac{1}{2} x = 21$ 78) _____

A) 42 B) 7 C) 17 D) 14

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

A) -150 B) 150 C) -75 D) 75

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

A) -4 B) 3 C) 4 D) -12

81) $\frac{6}{7} + \frac{1}{8} x = 4$ 81) _____

A) $-\frac{16}{7}$ B) $\frac{7}{-4}$ C) $\frac{160}{7}$ D) $\frac{176}{7}$

82) $\frac{3}{4} + 4y = 5y - \frac{1}{12}$ 82) _____

A) $\frac{5}{6}$ B) $\frac{5}{54}$ C) $\frac{2}{3}$ D) $\frac{1}{3}$

83) $\frac{3}{4} x - \frac{1}{3} x = \frac{7}{6} x + 1$ 83) _____

A) $\frac{24}{17}$ B) $\frac{4}{-3}$ C) $\frac{12}{19}$ D) $\frac{1}{-18}$

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

A) $\frac{11}{3}$ B) $\frac{32}{19}$ C) $\frac{28}{9}$ D) $\frac{28}{19}$

85) $\frac{11}{10}x + \frac{1}{10}x = 7x + \frac{1}{5} + \frac{9}{10}x$ 85) _____

A) $\frac{1}{67}$ B) $\frac{2}{-67}$ C) $-\frac{1}{67}$ D) $\frac{2}{73}$

**Solve.**

86) 13.9x + 11.2x = 401.6 86) _____

A) 17 B) 15 C) 16 D) 18

87) 13.5y - 5.7y = 148.2 87) _____

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

88) 4.8x - 13.2x = -151.2 88) _____

A) 19 B) 18 C) 20 D) 17

**Solve. Clear decimals first.**

89) 12.8t + 76.8 = 44.8t + 268.8 89) _____

A) 30 B) -30 C) -6 D) 6

90) 1.7x + 1.3 = -74.3 + 10.1x 90) _____

A) 7.7 B) 9 C) -84 D) 7.5

91) 1.3y + 3.4 = 0.6y - 1.15 91) _____

A) -6.435 B) -6.5 C) -6.49 D) 0.154

92) -6.4q + 1.6 = -56 - 1.6q 92) _____

A) 9.0 B) 12 C) -62 D) 9.3

93) 10.2y - 71.4 = 30.6y - 214.2 93) _____

A) 28 B) 7 C) -28 D) -7

94) 6.96x + 48.72 = 2.32x + 16.24 94) _____

A) -28 B) 7 C) 28 D) -7

95) 5.72t - 40.04 = 2.86t - 20.02 95) _____

A) 14 B) 7 C) -14 D) -7

96) 8.35y - 50.1 + 5.01y = 3.34y - 20.04 + 30.06 96) _____

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

**Solve.**

97) 6(x - 24) = 12 97) _____

A) 12 B) 22 C) 26 D) 24

98) $8x - (6x - 1) = 2$ 98) _____

A) $-\frac{1}{2}$ B) $\frac{1}{14}$ C) $-\frac{1}{14}$ D) $\frac{1}{2}$

99) $6(8x - 1) = 24$ 99) _____

A) $\frac{3}{8}$ B) $\frac{23}{48}$ C) $\frac{25}{48}$ D) $\frac{5}{8}$

100) $5(2z - 3) = 9(z + 4)$ 100) _____

A) 51 B) 21 C) 26 D) -21

101) $\frac{1}{5}(20x - 25) = \frac{1}{3}(15x - 12)$ 101)

A) -1 B) 1 C) -20 D) $\frac{1}{20}$

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

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

103) $3(8x - 20) = 4(15x - 6)$ 103)

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

104) $2(x + 7) + 11 = 5(x + 4) + 14$ 104)

A) 10 B) -3 C) 15 D) 5

105) $5 - 2(x + 3) = 7 - 4(x + 1)$ 105)

A) 2 B) 4 C) 8 D) 12

106) $5[3 - 3(x + 1)] + 1 = 2(-39 - x) + 2x + 39$ 106)

A) $\frac{8}{6}$ B) 0 C) $\frac{8}{3}$ D) 8

107) $0.8(5x + 15) = 2.2 - (x + 3)$ 107)

A) $\frac{17}{50}$ B) $-\frac{125}{41}$ C) $-\frac{64}{25}$ D) $\frac{17}{3}$

108) $2.5(x + 2.5) - 11.5 = 4(x + 1) - 13$ 108)

A) 2.5 B) 8.5 C) 12.5 D) 4.5

109) $12.8 - 7.8(x + 1.2) = 13 - 8(x + 1)$ 109)

A) 25.8 B) 9.8 C) 7.8 D) 17.8

110) $5x - 2 + 9x - 5 = 7x + 7x + 7$ 110)

A) 0 B) 7

C) No solution D) All real numbers

7

111) $-5 + x = x - 5$ 111) _____

A) No solution B) All real numbers
C) 0 D) 10

112) $2(x + 5) - (2x + 10) = 0$ 112) _____

A) 5 B) All real numbers
C) No solution D) 0

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

A) 0 B) 1
C) No solution D) All real numbers

114) $3(3g - 22) - 9g + 66 = 0$ 114) _____

A) All real numbers B) -3
C) No solution D) 3

115) $8k + 78 = 4(2k + 19)$ 115) _____

A) 2 B) -2
C) All real numbers D) No solution

116) $-25s + 88 + 5(5s - 16) = 0$ 116) _____

A) 1 B) No solution
C) All real numbers D) 5

117) $2[3 - (9 - 5r)] - r = -18 + 3(2 + 3r)$ 117) _____

A) All real numbers B) -9
C) No solution D) 18

**Evaluate the formula for the given values of the variables.**

118) $P = 2L + 2W$; $L = 7$ in., $W = 6$ in. 118) _____

A) P = 13 in. B) P = 168 in. C) P = 84 in. D) P = 26 in.

119) $d = rt$; $r = 59$ miles per hour, $t = 3$ hours 119) _____

A) d = 62 miles B) d = 354 miles C) d = 177 miles D) $d = \frac{59}{3}$ 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 12 teams and all teams play each other twice. How many games are played? 120) _____

A) 132 games B) 12 games C) 36 games D) 156 games

**Solve.**

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

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

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

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

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

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

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

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

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

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

C) $y = 9x - 9w - 9z$ D) $y = 9x - w - z$

126) $V = 6s^3$ for $s^3$ 126) _____

A) $s^3 = V - 6$ B) $s^3 = \frac{V}{6}$ C) $s^3 = V - 6$ D) $s^3 = 6V$

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

127) What is 10% of 500? 127) _____

A) 5 B) 50 C) 500 D) 0.5

128) What is 5% of 600? 128) _____

A) 30 B) 3 C) 0.3 D) 300

129) What is 33% of 1955? 129) _____

A) 645.15 B) 64.52 C) 64,515 D) 6451.5

130) What is 90% of 112? 130) _____

A) 10,080 B) 100.8 C) 1008 D) 10.08

131) What number is 8.1% of 45? 131) _____

A) 0.37 B) 36.5 C) 365 D) 3.65

132) What number is 5000% of 430? 132) _____

A) 215,000 B) 21,500 C) 2150 D) 2,150,000

133) What number is 160% of 335? 133) _____

A) 5360 B) 53,600 C) 53.6 D) 536

134) 68 is 30% of what number? 134) _____

A) 2266.7 B) 20.4 C) 226.67 D) 22.67

135) 18 is 9% of what number? 135) _____

A) 162 B) 2000 C) 200 D) 20

136) 43% of what number is 67? 136) _____

A) 155.81 B) 64 C) 0.64 D) 1558.1

137) 70% of what number is 78? 137) _____

A) 11.14 B) 111.43 C) 54.6 D) 1114.3

138) 57 is 124% of what number? 138) _____

A) 153.76 B) 459.7 C) 15,376 D) 45.97

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

139) 913 is what percent of 1898? 139) _____

A) 48.1% B) 207.9% C) 0.1% D) 0.5%

140) 957 is what percent of 742? 140) _____

A) 129.0% B) 1.3% C) 0.1% D) 77.5%

141) 3.5 is what percent of 17.8? 141) _____

A) 0.2% B) 508.6% C) 19.7% D) 5.1%

142) What percent of 2434 is 17? 142) _____

A) 17.0% B) 7.0% C) 14,317.6% D) 0.7%

143) What percent of 7 is 0.03? 143) _____

A) 42.9% B) 233.3% C) 0.4% D) 4.3%

144) What percent of 112 is 17.4? 144) _____

A) 15.5% B) 0.2% C) 643.7% D) 0.1%

145) What percent of 55 is 563? 145) _____

A) 1.0% B) 0.1% C) 1023.6% D) 102.4%

146) 64.6 is what percent of 7? 146) _____

A) 10.8% B) 9229.0% C) 922.9% D) 1.1%

147) What percent of 23 is 23? 147) _____

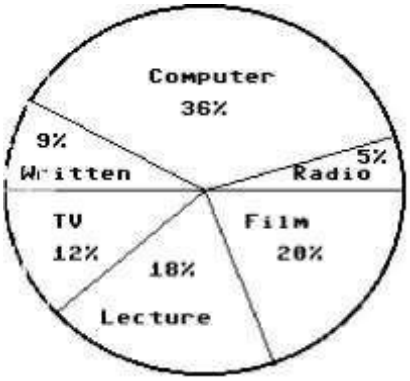
A) 200% B) 0% C) 100% D) 1%

148) What percent of 94 is 47? 148) _____

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

**Answer the question.**

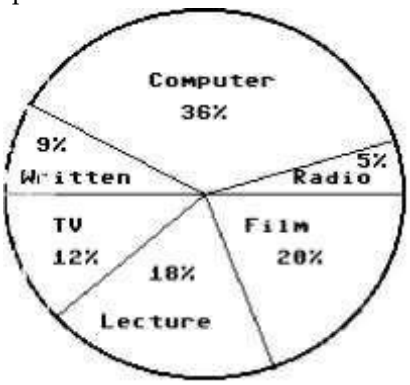
149) In a school survey, students showed these preferences for instructional materials. Answer the question. 149) _____




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

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

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




About how many students would you expect to prefer written materials in a school of 950 students?

A) About 171 students B) About 9 students
C) About 342 students D) About 86 students

**Solve the problem.**

151) The parking lot at a grocery store has 90 cars in it. 90% of the cars are blue. How many cars are blue? 151) _____

A) 810 cars B) 10 cars C) 100 cars D) 81 cars

152) A chemical solution contains 4% salt. How much salt is in 1 mL of solution? 152) _____

A) 0.4 mL B) 2.5 mL C) 0.04 mL D) 25 mL

153) During one year, the Larson's real estate bill included $417 for local schools. Of this amount, $100 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) 76.02% B) 23.74% C) 23.98% D) 10.00%

154) During one year, the Green's real estate bill included $308 for city services. The fire department received 38% of that amount. How much money went to the fire department? 154) _____

A) $117.04 B) $62.00 C) $11.70 D) $97.04

155) During one year, the Cheung's real estate bill included $338 for county services. Of this amount, $ 112 went to the highway department. What percent did the county highway department receive? (Round answer to two decimal places.) 155) _____

A) 66.86% B) 33.14% C) 32.84% D) 11.20%

156) During one year, the Schmidt's real estate bill included $246 for miscellaneous services. Of this amount, 48% went to the library fund. How much money did the library receive? 156) _____

A) $80.49 B) $98.08 C) $118.08 D) $93.48

157) Sarah left a 15% tip of $10.05 for a meal. What was the cost of the meal before the tip? 157) _____

A) $1.51 B) $20.10 C) $77.05 D) $67.00

158) Andy left a 15% tip for a meal that cost $47. What was the total cost of the meal including the tip? 158) _____

A) $7.05 B) $39.95 C) $61.10 D) $54.05

159) Jennifer's annual salary increased from $22,000 to $49,000 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) 55.1% C) 12.3% D) 122.7%

160) On a biology test, a student got 25 questions correct but did not pass. On a second attempt, the student got 36 questions correct. What was the percent of increase? 160) _____

A) 11% B) 56% C) 44% D) 30.6%

161) Sales of frozen pizza for a club fund-raiser increased from 500 one year to 590 the next year. What was the percent of increase? 161) _____

A) 84.7% B) 82% C) 18% D) 15.3%

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 37% this year. Find Jennifer's current annual salary. 163) _____

A) $28,490 B) $8510 C) $40,020 D) $31,510

164) The price of a printer was reduced from $400 to $160. What was the percent of decrease? 164) _____

A) 65% B) 150% C) 60% D) 40%

165) The normal gasoline mileage of a car is 49 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) 5.9 mpg B) 54.9 mpg C) 49 mpg D) 50 mpg

166) Brand X copier has improved its copier so that it produces 24% more copies than its old model. If the old model ran 667 copies per hour, how many copies would the new model run? Round your answer to the nearest whole number. 166) _____

A) 812 copies per hour B) 379 copies per hour
C) 682 copies per hour D) 827 copies per hour

167) After spending $2550 for tables and $3250 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) $3421 B) $290 C) $5524 D) $6105

168) Midtown Antiques has found that sales have decreased 6% from last year. Sales this year are $ 132,724. Find the amount of last year's sales. Round your answer to the nearest dollar. 168) _____

A) $141,196 B) $141,186 C) $142,196 D) $141,096

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

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

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

A) -189 B) -188 C) -191 D) -190

171) The sum of three consecutive integers is 363. Find the integers. 171) _____

A) 119, 121, 123 B) 121, 122, 123 C) 120, 121, 122 D) 119, 120, 121

172) The sum of three consecutive odd integers is 213. Find the integers. 172) _____

A) 71, 73, 75 B) 69, 71, 73 C) 73, 75, 77 D) 64, 65, 66

173) If three times the smaller of two consecutive integers is added to four times the larger, the result is 46. Find the smaller integer. 173) _____

A) 5 B) 18 C) 6 D) 7

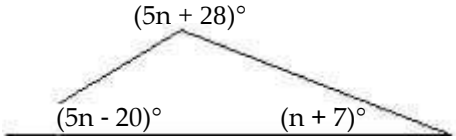
174) If the first and third of three consecutive odd integers are added, the result is 57 less than five times the second integer. Find the third integer. 174) _____

A) 38 B) 17 C) 19 D) 21

175) Two angles of a triangle are 30° and 100°. What is the measure of the third angle? 175) _____

A) 230° B) 50° C) -40° D) 130°

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




A) 55°, 13°, 22° B) 55°, 103°, 22° C) 35°, 103°, 22° D) 75°, 75°, 15°

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

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

178) Find the length of a rectangular lot with a perimeter of 126 meters if the length is 7 meters more than the width. (P = 2L + 2W) 178) _____

A) 28 m
B) 63 m
C) 70 m
D) 35 m

179) A square plywood platform has a perimeter which is 10 times the length of a side, decreased by 24. Find the length of a side. 179) _____

A) 1
B) 6
C) 10
D) 4

180) A rectangular Persian carpet has a perimeter of 232 inches. The length of the carpet is 20 inches more than the width. What are the dimensions of the carpet? 180) _____

A) 68 in., 88 in.
B) 48 in., 68 in.
C) 106 in., 126 in.
D) 96 in., 116 in.

181) A pie-shaped (triangular) lake-front lot has a perimeter of 2200 feet. One side is 200 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) 600 ft, 600 ft, 600 ft
B) 500 ft, 700 ft, 1000 ft
C) 600 ft, 800 ft, 1100 ft
D) 100 ft, 200 ft, 300 ft

182) If Gloria received a 11 percent raise and is now making $22,200 a year, what was her salary before the raise? Round to the nearest dollar if necessary. 182) _____

A) $20,200
B) $20,000
C) $19,758
D) $21,000

183) Stevie bought a stereo for $255 and put it on sale at his store at a 70% markup rate. What was the retail price of the stereo? Round to the nearest cent if necessary. 183) _____

A) $510.00
B) $333.50
C) $433.50
D) $355.00

184) On Monday, an investor bought 100 shares of stock. On Tuesday, the value of the shares went up 8%. How much did the investor pay for the 100 shares if he sold them Wednesday morning for $1620? Round to the nearest dollar if necessary. 184) _____

A) $1570
B) $1500
C) $1490
D) $1550

185) At the end of the day, a storekeeper had $1155 in the cash register, counting both the sale of goods and the sales tax of 5%. Find the amount that is the tax. Round to the nearest dollar if necessary. 185) _____

A) $46
B) $58
C) $55
D) $60

186) Brand X copier advertises that its copiers run 18% longer between service calls than its competitor. If Brand X copiers run 66,600 copies between service calls, how many copies would the competitor run (to the nearest copy)? 186) _____

A) 36,593 copies
B) 78,588 copies
C) 56,441 copies
D) 54,612 copies

187) A high school graduating class is made up of 376 students. There are 96 more girls than boys. How many boys are in the class? 187) _____

A) 236 boys B) 376 boys C) 96 boys D) 140 boys

188) A baseball team played 154 complete games last season. They had 30 fewer wins than losses. How many games did the team win? 188) _____

A) 62 games B) 30 games C) 92 games D) 154 games

189) On a road trip from Chicago to New Orleans, Joe stopped in Memphis which is 540 miles from Chicago. If Memphis is 0.6 of the trip to New Orleans, how far is it from Chicago to New Orleans? 189) _____

A) 324 miles B) 600 miles C) 3240 miles D) 900 miles

190) Every basketball season Pam competes in a free throw contest. This year Pam was successful at 0.6 of her free throws. If she succeeded at 9 free throws, how many free throws did she attempt? 190) _____

A) 900.6 free throws B) 15 free throws
C) 54 free throws D) 5.4 free throws

191) CopyMart charges $28 plus 44¢ per copy to produce promotional brochures. How many brochures can Steve purchase if he has a budget of $89.16? (Hint: 44¢ = $0.44) 191) _____

A) 18 brochures B) 48 brochures C) 149 brochures D) 139 brochures

192) Recently, the cost of 18 6-oz jars of baby food was $11.52. What was the cost of one jar? 192) _____

A) $0.64 B) $1.92 C) $0.32 D) $1.28

**Solve.**

193) The height of the tallest building in Anne's home town is 651 feet, which is about 317 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) 334 ft B) 968 ft C) 447 ft D) 317 ft

194) The area of Mark's backyard is about 7 times the area of Jon's backyard. The area of Mark's backyard is 5411 $ft^2$. What is the area of Jon's backyard? 194) _____

A) 5404 $ft^2$ B) 773 $ft^2$ C) 5411 $ft^2$ D) 886 $ft^2$

195) A city government budgeted $27.7 million for public transportation. This was $13.1 million more than was budgeted for parks and recreation. How much was budgeted for parks and recreation? 195) _____

A) $14.1 million B) $14.6 million C) $18.6 million D) $15.6 million

196) Elaine was cooking dinner for some friends. She went out to do the shopping and spent $156. She spent twice as much on food as on drinks. How much did she spend on each? 196) _____

A) Drinks: $39; food: $78 B) Drinks: $52; food: $104
C) Drinks: $78; food: $156 D) Drinks: $39; food: $117

197) A 243-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: 41 ft; second: 81 ft; third: 243 ft B) First: 27 ft; second: 54 ft; third: 162 ft
C) First: 30 ft; second: 61 ft; third: 182 ft D) First: 30 ft; second: 61 ft; third: 152 ft

198) A car rental business rents a compact car at a daily rate of $25.20 plus 20¢ per mile. Mike can afford to spend $71 on the car rental for one day. How many miles can he drive and stay within his budget? (Hint: 20¢ = $0.20) 198) _____

A) 234 mi B) 229 mi C) 224 mi D) 219 mi

199) You are traveling to your aunt's house that is 240 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) 40.0 mi B) 160 mi C) 80 mi D) 120.0 mi

200) Jordan sold his used snow plow and accessories for $539. If he received ten times as much money for the snow plow as he did for the accessories, how much did he receive for the snow plow? 200) _____

A) $490 B) $5390 C) $59 D) $49

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 $27.00? (Hint: 75¢ = $0.75) 201) _____

A) 30 mi B) 20.25 mi C) 36 mi D) 72 mi

202) Bill needs an average of 70 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 65, 60, and 92? 202) _____

A) 72.3 B) 70 C) 71.8 D) 63

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

203) $x > -12$, -4.69 203) _____

A) No B) Yes

204) $x > 8$, 6.54 204) _____

A) Yes B) No

205) $x < 11$, 7.99 205) _____

A) Yes B) No

206) $x > -2$, -8.7 206) _____

A) No B) Yes

207) $x \geq -11$, 3 207) _____

A) No B) Yes

208) $x \geq 15$, 13 208) _____

A) No B) Yes

209) $x \leq 3$, -9 209) _____

A) No B) Yes

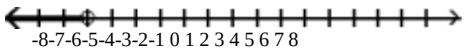
210) $x \leq 12$, 15 210) _____

A) Yes B) No

**Graph the inequality.**

211) $x > -6$ 211) _____

A)

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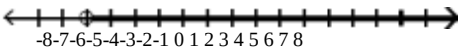


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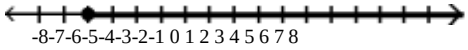


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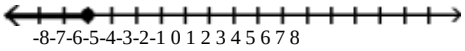
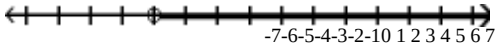
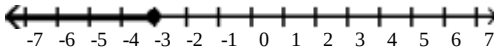



212) $x < -3$ 212) _____

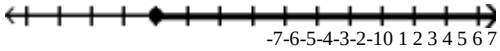
A)




B)




C)

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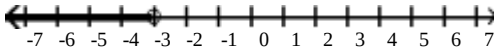
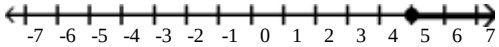



213) $x \geq 5$ 213) _____

A)

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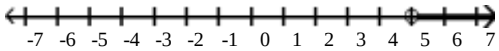
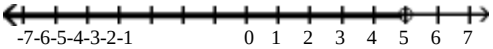
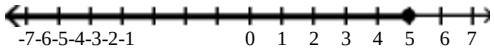



C)

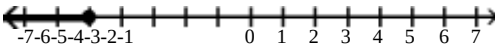



D)

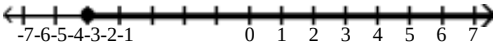


214) $x \leq -5$ 214) _____

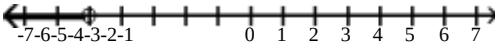
A)




B)



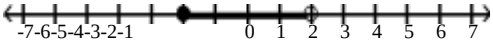

C)




D)

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

A)

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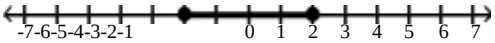
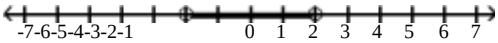


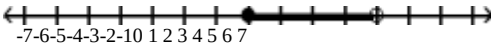

C)

D)



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

A)

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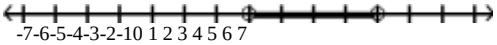


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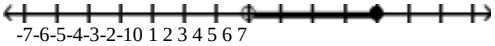


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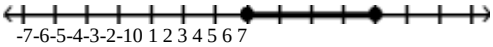
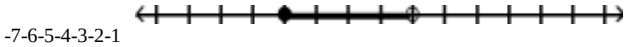
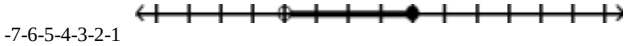



217) $-3 \le x < 1$ 217) _____

A)

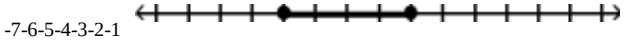



B)




C)

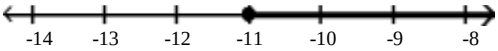
D)



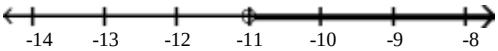
**Solve using the addition principle. Graph and write set-builder notation for the answer.**

218) $a - 1 < -12$ 218) _____

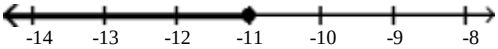
A) $\{a \mid a \geq -11\}$



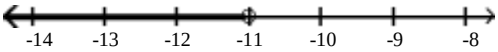

B) $\{a \mid a > -11\}$




C) $\{a \mid a \leq -11\}$

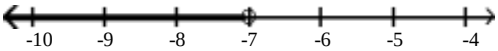



D) $\{a \mid a < -11\}$

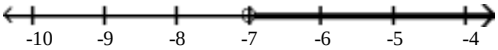



219) $-2n + 3 > -3n - 4$ 219) _____

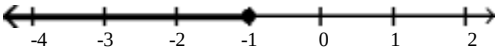
A) $\{n \mid n < -7\}$



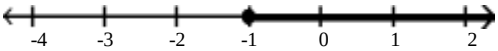

B) $\{n \mid n > -7\}$




C) $\{n \mid n \leq -1\}$



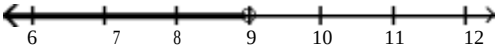

D) $\{n \mid n \geq -1\}$



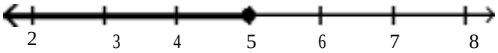
220) $9t - 2 \geq 8t + 3$ 220) _____

A) {t | t ≥ 5}

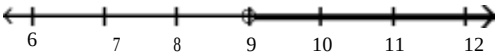
B) {t | t < 9}




C) {t | t ≤ 5}

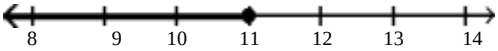



D) {t | t > 9}

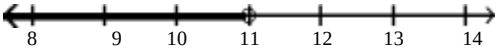



221) $f + 3 < 14$ 221) _____

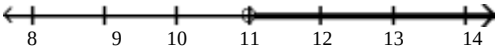
A) {f | f ≤ 11}



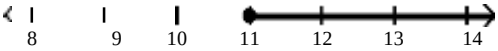

B) {f | f < 11}




C) {f | f > 11}

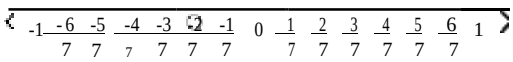



D) {f | f ≥ 11}

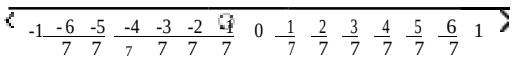


222) $x - \frac{2}{21} > -\frac{8}{21}$ 222) _____

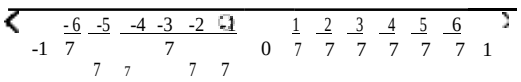
A) $\left\{x \mid x > -\frac{2}{7}\right\}$



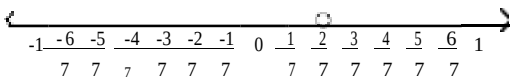

B) $\left\{x \mid x > -\frac{2}{7}\right\}$




C) $\left\{x \mid x < -\frac{1}{7}\right\}$

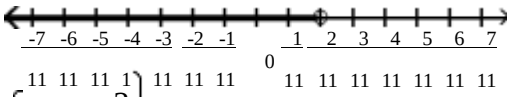



D) $\left\{x \mid x > \frac{2}{7}\right\}$

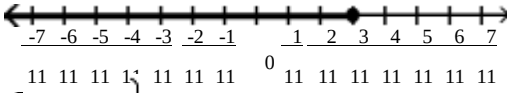


223) $x + \frac{1}{11} \geq \frac{4}{11}$ 223)

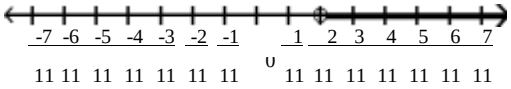
A) $\left\{x \mid x < \frac{2}{11}\right\}$



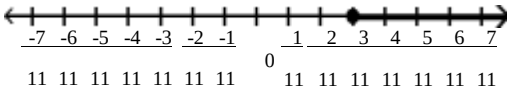

B) $\left\{x \mid x \leq \frac{3}{11}\right\}$




C) $\left\{x \mid x > \frac{2}{11}\right\}$




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




**Solve using the multiplication principle.**

224) $3n \geq 9$ 224) _____

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

225) $-3x < -9$ 225) _____

A) $\{x \mid x < -3\}$ B) $\{x \mid x > -3\}$ C) $\{x \mid x > 3\}$ D) $\{x \mid x < 3\}$

226) $4x \leq -16$ 226) _____

A) $\{x \mid x \leq -4\}$ B) $\{x \mid x \geq 4\}$ C) $\{x \mid x \leq 4\}$ D) $\{x \mid x \geq -4\}$

227) $-4k < \frac{1}{3}$ 227) _____

A) $\left\{k \mid k < \frac{1}{12}\right\}$ B) $\left\{k \mid k > -\frac{1}{12}\right\}$ C) $\left\{k \mid k < -\frac{1}{12}\right\}$ D) $\left\{k \mid k > \frac{1}{12}\right\}$

228) $-4x < -\frac{1}{5}$ 228) _____

A) $\left\{x \mid x < -\frac{1}{20}\right\}$ B) $\left\{x \mid x > \frac{1}{20}\right\}$ C) $\left\{x \mid x > -\frac{1}{20}\right\}$ D) $\left\{x \mid x < \frac{1}{20}\right\}$

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

A) $\left\{x \mid x < \frac{3}{14}\right\}$ B) $\left\{x \mid x > -\frac{3}{14}\right\}$ C) $\left\{x \mid x < \frac{5}{7}\right\}$ D) $\left\{x \mid x > \frac{5}{7}\right\}$

230) $-\frac{4}{7} > -2x$ 230) _____

A) $\{x \mid x < 0\}$ B) $\{x \mid x > 0\}$ C) $\left\{x \mid x > -\frac{2}{7}\right\}$ D) $\left\{x \mid x < -\frac{2}{7}\right\}$

**Solve using the addition and multiplication principles.**

231) $5 + 3x < -28$ 231) _____

A) $\{x \mid x > -11\}$ B) $\left\{x \mid x < \frac{23}{3}\right\}$ C) $\left\{x \mid x > \frac{23}{3}\right\}$ D) $\{x \mid x < -11\}$

232) $-7x + 2 > -8x - 1$ 232) _____

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

233) $13x - 3 \le 12x + 5$ 233) _____

A) $\{x \mid x > 13\}$ B) $\{x \mid x \ge 8\}$ C) $\{x \mid x \le 8\}$ D) $\{x \mid x < 13\}$

234) $-5x - 9 \ge -6x - 8$ 234) _____

A) $\{x \mid x < -5\}$ B) $\{x \mid x \le 1\}$ C) $\{x \mid x > -5\}$ D) $\{x \mid x \ge 1\}$

235) $3y - 9 \ge 4y + 3$ 235) _____

A) $\{y \mid y \ge 12\}$ B) $\{y \mid y \le 3\}$ C) $\{y \mid y > 3\}$ D) $\{y \mid y \le -12\}$

236) $-2 - 6a - 6 \ge -7a - 20$ 236) _____

A) $\{a \mid a \le -12\}$ B) $\{a \mid a > -6\}$ C) $\{a \mid a \ge -12\}$ D) $\{a \mid a < -6\}$

237) $0.6x + 11 + x > 2x + 10 - 0.5x$ 237) _____

A) $\{x \mid x \ge 1\}$ B) $\{x \mid x < -10\}$ C) $\{x \mid x > -10\}$ D) $\{x \mid x < 1\}$

238) $\frac{x}{2} + 15 \le 9$ 238) _____

A) $\{x \mid x \ge -12\}$ B) $\{x \mid x \le 8\}$ C) $\{x \mid x \le -12\}$ D) $\{x \mid x < -10\}$

239) $15x + 25 > 5(2x + 6)$ 239) _____

A) _____ B) _____ C) _____ D) _____

A) $\{x \quad x > 1\}$ B) $\{x \quad x \leq 1\}$ C) $\{x \quad x < 1\}$ D) $\{x \quad x \geq 1\}$

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

$\frac{5}{4}\}$ $\{\ |\ \ \frac{5}{2}\}$ $\{\ |\ \ \frac{11}{4}\}$

240)

$\left\{ \quad \frac{7}{4} \right\}$ $\left\{ \right.$

2 2 2

**Translate the sentence to an inequality.**

241) A number is greater than -1. 241) _____

A) $x \le -1$ B) $x \ge -1$ C) $x < -1$ D) $x > -1$

242) A number is less than or equal to 7. 242) _____

A) $x > 7$ B) $x < 7$ C) $x \le 7$ D) $x \ge 7$

243) John weighs at least 143 pounds. 243) _____

A) $x \le 143$ B) $x \ge 143$ C) $x < 143$ D) $x > 143$

244) The score on a test was between 80 and 64. 244) _____

A) $64 < x < 80$ B) $x < 80$ C) $80 < x < 64$ D) $x > 64$

245) The cost is no more than $393.90. 245) _____

A) $x < 393.90$ B) $x \le 393.90$ C) $x > 393.90$ D) $x \ge 393.90$

246) The number of people at a concert is not to exceed 4931. 246) _____

A) $x > 4931$ B) $x \ge 4931$ C) $x < 4931$ D) $x \le 4931$

247) The height of a member of the basketball team is at least 76 inches. 247) _____

A) $x \ge 76$ B) $x < 76$ C) $x > 76$ D) $x \le 76$

248) Two times a number less twenty-seven must be more than thirty. 248) _____

A) $2x - 27 \ge 30$ B) $2(x - 27) \ge 30$ C) $2x - 27 > 30$ D) $2(x - 27) > 30$

249) Four added to half of a number is at most one. 249) _____

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

**Solve the problem.**

250) A salesperson has two job offers. Company A offers a weekly salary of $720 plus commission of 16% of sales. Company B offers a weekly salary of $1440 plus commission of 8% of sales. What is the amount of sales above which Company A's offer is the better of the two? 250) _____

A) $9000 B) $18,000 C) $4500 D) $9100

251) Company A rents copiers for a monthly charge of $90 plus 6 cents per copy. Company B rents copiers for a monthly charge of $180 plus 3 cents per copy. What is the number of copies above which Company A's charges are the higher of the two? 251) _____

A) 1500 copies B) 3000 copies C) 6000 copies D) 3100 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 66 and 81 on his first two tests. What score must he get on his third test to keep an average of 75 or greater? 253) _____

A) At least 77 B) At least 78 C) At least 74.0 D) At least 73.5

254) A bag of marbles has twice as many blue marbles as green marbles, and the bag has at least 54 marbles in it. At least how many green marbles does it have? 254) _____

A) At least 19 green marbles
B) At least 27 green marbles
C) At least 18 green marbles
D) At least 36 green marbles

255) Jon has 813 points in his math class. He must have 72% 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) 195 points
B) 1008 points
C) 587 points
D) 585 points

256) DG's Plumbing and Heating charges $50 plus $70 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) 15 hours
B) 4 hours
C) 13 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 $29\frac{2}{3}$ lb? 257) _____

A) more than 32 weeks
B) more than $20\frac{3}{4}$ week(s)
C) more than 58 weeks
D) more than 31 weeks

258) In order for a chemical reaction to take place, the Fahrenheit temperature of the reagents must be at least 197.5°F. Find the Celsius temperatures at which the reaction may occur. ($F = \frac{9}{5}C + 32$) 258) _____

A) $C \geq 91.94°$
B) $C \leq 91.94°$
C) $C < 387.5°$
D) $C \geq 387.5°$

259) In order for a chemical reaction to remain stable, its Celsius temperature must be no more than 137.94°C. Find the Farenheit temperatures at which the reaction will remain stable. ($F = \frac{9}{5}C+32$) 259) _____

A) $F \leq 280.29°$
B) $F \geq 58.86°$
C) $F \geq 280.29°$
D) $F \leq 58.86°$

260) The equation $y = 0.005x + 0.30$ 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 $1285? 260) _____

A) $0 < x \leq 256{,}939$
B) $x \geq 257{,}060$
C) $x \leq 256{,}940$
D) $x \geq 256{,}940$

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 48.8 seconds or less? 261) _____

A) 1936 or after
B) 1960 or after
C) 1961 or after
D) 1962 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 45 dollars? (Y is the actual year.) 262) _____

A) 2016 or after
B) 2018 or after
C) 2026 or after
D) 2014 or after

263) One side of a rectangle is 16 inches and the other side is x inches. What values of x will make the perimeter at least 58? 263) _____

A) $x < 13$ B) $x \le 13$ C) $x \ge 13$ D) $0 < x \le 13$

264) One side of a rectangle is 9 inches and the other side is x inches. What values of x will make the perimeter at most 46? 264) _____

A) $x \ge 14$ B) $x \le 14$ C) $x < 14$ D) $0 < x \le 14$

265) One side of a rectangle is 4 times the other, and the perimeter is not to exceed 130. Find the possible values for x, the length of the shorter side. 265) _____

A) $x \le 13$ B) $x \ge 52$ C) $0 < x \le 13$ D) $0 < x \le 52$

266) One side of a triangle is 4 cm shorter than the base, x. The other side is 3 cm longer than the base. What lengths of the base will allow the perimeter of the triangle to be at least 29 cm? 266) _____

A) $x \ge 10$ B) $0 < x \le 10$ C) $x \le 13$ D) $x > 6$

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 36 square inches. 267) _____

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

268) The area of a triangle must be at most 22 square inches, the base is 4 inches, and the height is x inches. Find the possible values for x. 268) _____

A) $0 < x \le 22$ B) $0 < x \le 11$ C) $x < 11$ D) $0 < x \le 5.5$

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 414 in.$^2$ of cloth? 269) _____

A) 46 in. B) 92 in. C) 48 in. D) 23 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 10 ft, what is the maximum height of the triangular sign? 270) _____

A) 30 ft B) 1.000 ft C) 2.00 ft D) 4.0 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 $3(4s - 2) = 12s - 6$ is given as 0. Is this correct? Explain. 272) _____

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

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

$4x - 3 = K$

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

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

276) What value of K makes this equation equivalent to $x = 2$? 276) _____
$3x + 15x - 8 = K + 6$

277) Find all values of s that make this statement true: $9(2s - 9) = 18s - 81$. 277) _____

278) Find all values of x that make this statement true: $(x + 8) + 3 = (x + 3) + 8$. 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) _____

Answer Key
Testname: UNTITLED2

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

51) B
52) C
53) A
54) D
55) B
56) C
57) D
58) D
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76) C
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81) D
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84) C
85) B
86) C
87) D
88) B
89) C
90) B
91) B
92) B
93) B
94) D
95) B
96) B
97) C
98) D
99) D
100) A

Answer Key
Testname: UNTITLED2

101) A
102) A
103) D
104) B
105) A
106) C
107) C
108) A
109) C
110) C
111) B
112) B
113) D
114) A
115) D
116) B
117) A
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141) C
142) D
143) C
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145) C
146) C
147) C
148) A
149) B
150) D

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200) A

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

251) B
252) C
253) B
254) C
255) A
256) B
257) D
258) A
259) A
260) D
261) C
262) A
263) C
264) D
265) C
266) A
267) C
268) B
269) A
270) D
271) False. It has no solution.
272) No. The solution is all real numbers. Explanations will vary.
273) Answers will vary.
274) 9
275) 0
276) 22
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