

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) $3x = 12$; 6
A) No B) Yes 1) _____

2) $\frac{x}{4} = 7$; 28
A) Yes B) No 2) _____

3) $p + 3 = 15$; 12
A) Yes B) No 3) _____

4) $p - 10 = 1$; 11
A) Yes B) No 4) _____

5) $7m + 2 = 60$; 8
A) No B) Yes 5) _____

6) $4p + 2p - 7 = 47$; 9
A) Yes B) No 6) _____

Solve the equation using the addition principle.

7) $a - 7 = 1$
A) 6 B) 8 C) -6 D) -8 7) _____

8) $b + 2 = 9$
A) -7 B) 7 C) -11 D) 11 8) _____

9) $7 = z + 1$
A) 8 B) -8 C) 6 D) -6 9) _____

10) $4 = m - 28$
A) 24 B) -24 C) 32 D) -32 10) _____

11) $m - 17.18 = 0$
A) -16.18 B) 16.18 C) -17.18 D) 17.18 11) _____

12) $-5 + x = 13$				12) _____
A) -18	B) 8	C) -8	D) 18	

13) $14 = -30 + b$				13) _____
A) 44	B) 16	C) -16	D) -44	

14) $-25.4 = 25.0 + s$				14) _____
A) 50.4	B) -50.4	C) -0.4	D) 0.4	

15) $\frac{1}{5} + x = 4$				15) _____
A) $\frac{19}{5}$	B) $\frac{3}{5}$	C) 19	D) $\frac{21}{5}$	

16) $k + \frac{1}{3} = \frac{7}{12}$				16) _____
A) $\frac{11}{12}$	B) 3	C) $\frac{1}{2}$	D) $\frac{1}{4}$	

17) $m - \frac{2}{9} = \frac{2}{3}$				17) _____
A) $\frac{8}{9}$	B) $\frac{4}{9}$	C) $\frac{5}{9}$	D) 4	

18) $m + 2\frac{2}{3} = 3\frac{2}{3}$				18) _____
A) 1	B) 3	C) $\frac{19}{3}$	D) $\frac{10}{3}$	

19) $x - \frac{3}{4} = -\frac{1}{4}$				19) _____
A) -1	B) $-\frac{1}{2}$	C) 1	D) $\frac{1}{2}$	

Solve using the multiplication principle.

20) $5x = 10$				20) _____
A) $\frac{1}{2}$	B) 50	C) 2	D) 5	

21) $24 = 4x$				21) _____
A) 20	B) $\frac{1}{6}$	C) 96	D) 6	

22) $-x = 8$ A) $\frac{1}{8}$	B) 9	C) 8	D) -8	22) _____
23) $6a = -36$ A) 1	B) -6	C) -42	D) 42	23) _____
24) $45 = -9k$ A) -54	B) 1	C) 54	D) -5	24) _____
25) $-7x = -42$ A) 35	B) 6	C) 2	D) -35	25) _____
26) $8b = -120$ A) 128	B) 1	C) -128	D) -15	26) _____
27) $96 = -6z$ A) -16	B) 102	C) 1	D) -102	27) _____
28) $-52 = -4n$ A) -48	B) 48	C) 13	D) 2	28) _____
29) $-6s = -108$ A) 102	B) -102	C) 2	D) 18	29) _____
30) $\frac{x}{2} = 14$ A) 28	B) 14	C) 26	D) 16	30) _____
31) $\frac{-t}{6} = 15$ A) -90	B) -21	C) -84	D) -75	31) _____
32) $\frac{m}{-9} = 25$ A) -225	B) -34	C) -216	D) -200	32) _____
33) $\frac{1}{9}x = 22$ A) 31	B) 176	C) 189	D) 198	33) _____

- 34) $-\frac{1}{7}y = 11$ 34) _____
 A) -18 B) -70 C) -77 D) -66
- 35) $\frac{4}{5}x = 36$ 35) _____
 A) $\frac{184}{5}$ B) 45 C) $\frac{176}{5}$ D) $\frac{144}{5}$
- 36) $\frac{5}{7}k = 10$ 36) _____
 A) 14 B) 1 C) 11 D) 12
- 37) $\frac{4}{7} = \frac{5}{7}x$ 37) _____
 A) $\frac{20}{49}$ B) $\frac{4}{5}$ C) $\frac{49}{20}$ D) $\frac{5}{4}$
- 38) $-\frac{1}{8}z = \frac{1}{9}$ 38) _____
 A) $-\frac{8}{9}$ B) $-8\frac{1}{9}$ C) $\frac{8}{9}$ D) $-\frac{9}{8}$
- 39) $-\frac{3}{8}y = \frac{8}{9}$ 39) _____
 A) $-\frac{64}{9}$ B) $\frac{64}{27}$ C) $-\frac{27}{64}$ D) $-\frac{64}{27}$
- 40) $\frac{4}{5}x = -\frac{8}{27}$ 40) _____
 A) $-\frac{15}{8}$ B) $-\frac{8}{15}$ C) $-\frac{10}{27}$ D) $-\frac{5}{6}$
- 41) $-\frac{8}{9}y = -\frac{4}{15}$ 41) _____
 A) $\frac{3}{10}$ B) $\frac{15}{8}$ C) $\frac{8}{15}$ D) $\frac{6}{5}$
- 42) $2.7x = 21.6$ 42) _____
 A) $\frac{1}{8}$ B) 8 C) 18.9 D) 13.6

- | | | | | | |
|------------------------------|-------------------|-------------------|-------------------|--------------------|-----------|
| 43) $84.6 = 9.4y$ | A) 75.6 | B) $\frac{1}{9}$ | C) 75.2 | D) 9 | 43) _____ |
| 44) $-4.2y = 29.4$ | A) $-\frac{1}{7}$ | B) -25.2 | C) -22.4 | D) -7 | 44) _____ |
| 45) $6.7t = -46.9$ | A) -40.2 | B) $-\frac{1}{7}$ | C) -39.9 | D) -7 | 45) _____ |
| 46) $-44.1 = 4.9z$ | A) $-\frac{1}{9}$ | B) -9 | C) -35.1 | D) -39.2 | 46) _____ |
| 47) $-4.2m = -8.4$ | A) $\frac{1}{2}$ | B) 2 | C) 4.2 | D) 6.4 | 47) _____ |
| 48) $40.9x = 736.2$ | A) 718.2 | B) 695.3 | C) 18 | D) $\frac{1}{18}$ | 48) _____ |
| 49) $-35.5y = 532.5$ | A) -517.5 | B) -497 | C) -15 | D) $-\frac{1}{15}$ | 49) _____ |
| 50) $41.5t = -747$ | A) -729 | B) -18 | C) -705.5 | D) $-\frac{1}{18}$ | 50) _____ |
| 51) $-48.3m = -724.5$ | A) 709.5 | B) 676.2 | C) $\frac{1}{15}$ | D) 15 | 51) _____ |
| 52) $\frac{1}{2}b = -2.75$ | A) -1.75 | B) -1.00 | C) -0.75 | D) -5.50 | 52) _____ |
| 53) $-\frac{3}{7}x = -12.75$ | A) 16.75 | B) 26.75 | C) 5.75 | D) 29.75 | 53) _____ |

$$54) -\frac{3}{8}x = 28.41$$

A) -14.53

B) -72.76

C) -20.41

D) -75.76

54) _____

Solve.

$$55) 6r + 4 = 58$$

A) 5

B) 9

C) 52

D) 48

55) _____

$$56) 9n - 2 = 70$$

A) 8

B) 67

C) 63

D) 9

56) _____

$$57) 27 = 5x - 3$$

A) 29

B) 6

C) 8

D) 25

57) _____

$$58) 178 = 14x + 10$$

A) 2

B) 158

C) 12

D) 154

58) _____

$$59) 8x + 8 = -56$$

A) -72

B) -7

C) -6

D) -8

59) _____

$$60) -3 + 7p = -6$$

A) $-\frac{10}{7}$

B) $-\frac{9}{7}$

C) $-\frac{3}{7}$

D) $\frac{3}{7}$

60) _____

$$61) -6x - 25 = -61$$

A) $\frac{43}{3}$

B) -30

C) -6

D) 6

61) _____

$$62) -7n - 2 = 68$$

A) 67

B) 10

C) -10

D) -63

62) _____

$$63) -47 = -6x + 7$$

A) 52

B) -9

C) 48

D) 9

63) _____

$$64) \frac{1}{3}f - 3 = 1$$

A) -10

B) 12

C) -12

D) 10

64) _____

$$65) \frac{1}{3}a - \frac{1}{3} = -4$$

A) 11

B) 13

C) -13

D) -11

65) _____

66) $4x + 3x = 28$				66) _____
A) 21	B) 4	C) 7	D) $\frac{7}{3}$	

67) $-8x - 5x = -91$				67) _____
A) -7	B) -78	C) 7	D) 8	

68) $4y + 24 = 8y$				68) _____
A) -2	B) 6	C) -6	D) 2	

69) $9x + 5 = 4x + 30$				69) _____
A) $\frac{25}{13}$	B) 7	C) $\frac{35}{13}$	D) 5	

70) $10x - 6 = 58 - 6x$				70) _____
A) 13	B) 4	C) -4	D) 16	

71) $4y - 7 = 5 + y$				71) _____
A) 4	B) $\frac{12}{5}$	C) $-\frac{2}{3}$	D) $-\frac{2}{5}$	

72) $8 - 9x = 5x - 8x - 22$				72) _____
A) $\frac{11}{3}$	B) $\frac{7}{6}$	C) 5	D) $\frac{11}{6}$	

73) $-3a + 4 + 4a = 9 - 30$				73) _____
A) 25	B) 43	C) -25	D) -43	

74) $-6b + 2 + 4b = -3b + 7$				74) _____
A) -7	B) 5	C) 7	D) -2	

75) $5x - 7 + 5x = 8x + 49 - 5x$				75) _____
A) 7	B) 8	C) 9	D) 10	

Solve. Clear fractions first.

76) $\frac{1}{6}y - 3 = 4$				76) _____
A) 44	B) -42	C) -44	D) 42	

77) $\frac{4}{3}y - 24 = -16$				77) _____
A) 6	B) 30	C) 1	D) -6	

78) $x + \frac{1}{3}x = 12$

A) 36

B) 3

C) 12

D) 9

78) _____

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

A) -30

B) -60

C) 60

D) 30

79) _____

80) $\frac{1}{5}r + \frac{6}{5} = \frac{1}{7}r + \frac{8}{7}$

A) 1

B) 2

C) -1

D) -2

80) _____

81) $\frac{4}{5} + \frac{1}{6}x = 10$

A) $\frac{264}{5}$

B) 5

C) $\frac{36}{5}$ D) $\frac{276}{5}$

81) _____

82) $\frac{4}{5} + 4y = 3y - \frac{9}{20}$

A) $-\frac{7}{20}$ B) $-\frac{5}{4}$ C) $-\frac{13}{20}$ D) $\frac{5}{28}$

82) _____

83) $\frac{2}{3}x - \frac{1}{2}x = \frac{7}{6}x + 1$

A) $\frac{3}{4}$

B) -1

C) $-\frac{1}{18}$ D) $\frac{18}{13}$

83) _____

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

A) $\frac{52}{33}$ B) $\frac{59}{33}$ C) $\frac{4}{3}$ D) $\frac{56}{39}$

84) _____

85) $\frac{15}{14}x + \frac{1}{14}x = 2x + \frac{1}{7} + \frac{13}{14}x$

A) $\frac{1}{25}$ B) $-\frac{2}{25}$ C) $-\frac{1}{25}$ D) $\frac{2}{31}$

85) _____

Solve.

86) $5.7x + 6.3x = 156$

A) 15

B) 13

C) 14

D) 12

86) _____

87) $8.8y - 5.5y = 62.7$

A) 21

B) 18

C) 19

D) 20

87) _____

88) $7.4x - 12.9x = -99$

A) 19

B) 20

C) 18

D) 17

88) _____

Solve. Clear decimals first.

89) $10.5t + 84 = 4.5t + 36$

A) -32

B) 32

C) -8

D) 8

89) _____

90) $1.2x + 1.1 = -15.4 + 4.5x$

A) 5

B) -20

C) 3.9

D) 3.7

90) _____

91) $1.5y - 2.7 = 0.8y + 1.78$

A) 6.4

B) -0.156

C) 7.04

D) 6.5

91) _____

92) $-6.4q + 1.7 = -13.3 - 1.4q$

A) -20

B) 3

C) 2.3

D) 2.6

92) _____

93) $33.6y - 302.4 = 19.2y - 172.8$

A) 9

B) 27

C) -27

D) -9

93) _____

94) $7.92x + 63.36 = 13.86x + 110.88$

A) -8

B) 24

C) 8

D) -24

94) _____

95) $13.23t - 105.84 = 7.56t - 60.48$

A) -8

B) -24

C) 24

D) 8

95) _____

96) $12.11y - 72.66 + 5.19y = 8.65y - 51.9 + 31.14$

A) -12

B) -6

C) 12

D) 6

96) _____

Solve.

97) $9(x - 36) = 18$

A) 34

B) 38

C) 36

D) 18

97) _____

98) $6x - (3x - 1) = 2$

A) $\frac{1}{3}$ B) $-\frac{1}{3}$ C) $-\frac{1}{9}$ D) $\frac{1}{9}$

98) _____

99) $4(6x - 1) = 16$

A) $\frac{17}{24}$ B) $\frac{1}{2}$ C) $\frac{5}{6}$ D) $\frac{5}{8}$

99) _____

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

A) 8

B) 35

C) -5

D) 5

100) _____

- 101) $\frac{1}{3}(12x - 15) = \frac{1}{5}(25x - 20)$ 101) _____
 A) -1 B) $\frac{1}{20}$ C) 1 D) -20
- 102) $(y - 11) - (y + 8) = 4y$ 102) _____
 A) $-\frac{19}{4}$ B) $-\frac{3}{2}$ C) $-\frac{19}{2}$ D) $-\frac{3}{4}$
- 103) $3(15x - 25) = 5(15x - 9)$ 103) _____
 A) -1 B) 1 C) -8 D) $\frac{1}{8}$
- 104) $2(x + 5) + 4 = 3(x + 4) + 5$ 104) _____
 A) 8 B) 5 C) 11 D) -3
- 105) $6 - 4(x + 3) = 8 - 6(x + 1)$ 105) _____
 A) 18 B) 12 C) 6 D) 4
- 106) $4[3 - 3(x + 1)] + 1 = 2(-51 - x) + 2x + 51$ 106) _____
 A) $\frac{13}{3}$ B) 13 C) $\frac{13}{6}$ D) 0
- 107) $0.4(5x + 15) = 2.5 - (x + 3)$ 107) _____
 A) $\frac{11}{30}$ B) 11 C) $-\frac{122}{21}$ D) $-\frac{13}{6}$
- 108) $2.1(x + 4.9) - 4.1 = 3(x + 4) - 5$ 108) _____
 A) 13.1 B) 10.1 C) -0.9 D) 7.1
- 109) $8.3 - 1.3(x + 7.7) = 10 - 3(x + 6)$ 109) _____
 A) 11.3 B) 14.3 C) 8.3 D) -3.7
- 110) $4x - 2 + 7x - 7 = 6x + 5x + 9$ 110) _____
 A) No solution B) 9
 C) All real numbers D) 0
- 111) $-11 + x = x - 11$ 111) _____
 A) 22 B) 0
 C) No solution D) All real numbers

112) $6(x + 5) - (6x + 30) = 0$ 112) _____
 A) 0 B) All real numbers
 C) 5 D) No solution

113) $5(2f - 31) = 10f - 155$ 113) _____
 A) 0 B) 1
 C) No solution D) All real numbers

114) $4(5g + 33) - 20g - 132 = 0$ 114) _____
 A) -5 B) 5
 C) No solution D) All real numbers

115) $9k + 27 = 3(3k + 6)$ 115) _____
 A) All real numbers B) 3
 C) No solution D) -3

116) $-20s - 29 + 5(4s + 7) = 0$ 116) _____
 A) 1 B) 4
 C) All real numbers D) No solution

117) $2[3 - (1 - 5r)] - r = -2 + 3(2 + 3r)$ 117) _____
 A) -1 B) No solution
 C) All real numbers D) 2

Evaluate the formula for the given values of the variables.

118) $P = 2L + 2W$; $L = 3$ in., $W = 3$ in. 118) _____
 A) $P = 18$ in. B) $P = 36$ in. C) $P = 12$ in. D) $P = 6$ in.

119) $d = rt$; $r = 52$ miles per hour, $t = 3$ hours 119) _____
 A) $d = 312$ miles B) $d = \frac{52}{3}$ miles C) $d = 156$ miles D) $d = 55$ 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 7 teams and all teams play each other twice. How many games are played? 120) _____
 A) 7 games B) 42 games C) 56 games D) 21 games

Solve.

121) $A = \frac{1}{2}bh$ for b 121) _____
 A) $b = \frac{h}{2A}$ B) $b = \frac{2A}{h}$ C) $b = \frac{Ah}{2}$ D) $b = \frac{A}{2h}$

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

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

B) $B = \frac{3V}{h}$

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

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

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

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

B) $C = \frac{5}{F - 32}$

C) $C = \frac{F - 32}{9}$

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

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

A) $r = \frac{a + b}{s}$

B) $r = a + b - s$

C) $r = \frac{a}{s} + b$

D) $r = s(a + b)$

125) $x = \frac{w + y + z}{3}$ for y 125) _____

A) $y = 3x - w - z$

B) $y = 3x - 3w - 3z$

C) $y = 3x + w + z$

D) $y = x - w - z - 3$

126) $V = 5s^3$ for s^3 126) _____

A) $s^3 = 5V$

B) $s^3 = V - 5$

C) $s^3 = \frac{5}{V}$

D) $s^3 = \frac{V}{5}$

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

127) What is 10% of 400? 127) _____

A) 0.4

B) 400

C) 40

D) 4

128) What is 5% of 400? 128) _____

A) 200

B) 0.2

C) 2

D) 20

129) What is 35% of 1612? 129) _____

A) 5642

B) 56,420

C) 564.2

D) 56.42

130) What is 87% of 483? 130) _____

A) 4202.1

B) 42.02

C) 42,021

D) 420.21

131) What number is 8.8% of 17? 131) _____

A) 0.15

B) 1.5

C) 15

D) 150

132) What number is 7000% of 386? 132) _____

A) 27,020

B) 2,702,000

C) 2702

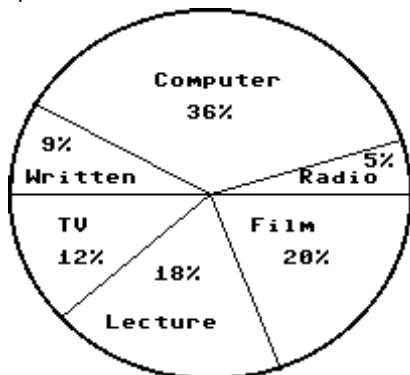
D) 270,200

- | | | | | | |
|---|------------|------------|-----------|--------------|------------|
| 133) What number is 150% of 434? | A) 6510 | B) 65,100 | C) 65.1 | D) 651 | 133) _____ |
| 134) 84 is 70% of what number? | A) 1200 | B) 58.8 | C) 12 | D) 120 | 134) _____ |
| 135) 18 is 5% of what number? | A) 36 | B) 90 | C) 360 | D) 3600 | 135) _____ |
| 136) 35% of what number is 75? | A) 2142.9 | B) 47 | C) 214.29 | D) 0.47 | 136) _____ |
| 137) 10% of what number is 71? | A) 710 | B) 7100 | C) 7.1 | D) 71 | 137) _____ |
| 138) 78 is 136% of what number? | A) 573.5 | B) 18,496 | C) 184.96 | D) 57.35 | 138) _____ |
| Solve the problem. Round to the nearest tenth of a percent. | | | | | |
| 139) 954 is what percent of 1940? | A) 0.1% | B) 0.5% | C) 49.2% | D) 203.4% | 139) _____ |
| 140) 989 is what percent of 781? | A) 79.0% | B) 0.1% | C) 126.6% | D) 1.3% | 140) _____ |
| 141) 4.9 is what percent of 19.5? | A) 398.0% | B) 4.0% | C) 0.3% | D) 25.1% | 141) _____ |
| 142) What percent of 3121 is 17? | A) 15.4% | B) 5.4% | C) 0.5% | D) 18,358.8% | 142) _____ |
| 143) What percent of 7 is 0.02? | A) 0.3% | B) 2.9% | C) 350.0% | D) 28.6% | 143) _____ |
| 144) What percent of 101 is 16.8? | A) 0.2% | B) 16.6% | C) 0.1% | D) 601.2% | 144) _____ |
| 145) What percent of 52 is 586? | A) 1126.9% | B) 0.9% | C) 112.7% | D) 0.1% | 145) _____ |
| 146) 53.1 is what percent of 9? | A) 590.0% | B) 5900.0% | C) 1.7% | D) 16.9% | 146) _____ |

- 147) What percent of 22 is 22? 147) _____
 A) 200% B) 100% C) 1% D) 0%
- 148) What percent of 94 is 47? 148) _____
 A) 200% B) 50% C) 0% D) 2%

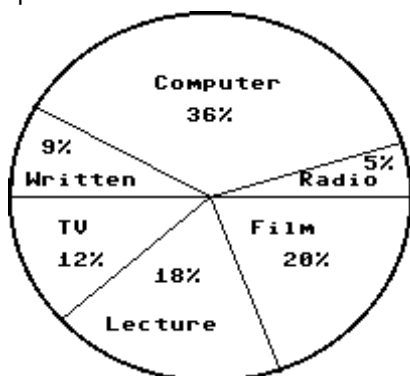
Answer the question.

- 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 850 students?

- A) About 170 students B) About 36 students
 C) About 153 students D) About 306 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 700 students?

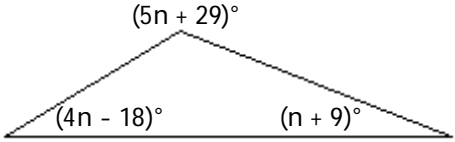
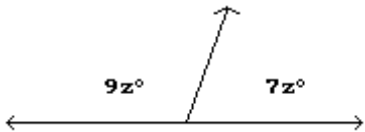
- A) About 252 students B) About 63 students
 C) About 9 students D) About 126 students

Solve the problem.

- 151) The parking lot at a grocery store has 96 cars in it. 75% of the cars are blue. How many cars are blue? 151) _____
 A) 720 cars B) 13 cars C) 128 cars D) 72 cars

- 152) A chemical solution contains 3% salt. How much salt is in 3.5 mL of solution? 152) _____
 A) 116.667 mL B) 1.05 mL C) 0.105 mL D) 11.667 mL
- 153) During one year, the Larson's real estate bill included \$528 for local schools. Of this amount, \$310 went to the high school district. What percent did the Larsons pay to the high school district? 153) _____
 (Round answer to two decimal places.)
 A) 58.52% B) 31.00% C) 41.29% D) 58.71%
- 154) During one year, the Green's real estate bill included \$377 for city services. The fire department received 35% of that amount. How much money went to the fire department? 154) _____
 A) \$111.95 B) \$65.00 C) \$131.95 D) \$13.20
- 155) During one year, the Cheung's real estate bill included \$345 for county services. Of this amount, \$78 went to the highway department. What percent did the county highway department receive? 155) _____
 (Round answer to two decimal places.)
 A) 22.32% B) 7.80% C) 22.61% D) 77.39%
- 156) During one year, the Schmidt's real estate bill included \$238 for miscellaneous services. Of this amount, 27% went to the library fund. How much money did the library receive? 156) _____
 A) \$40.46 B) \$64.26 C) \$88.66 D) \$44.26
- 157) Sarah left a 15% tip of \$6.45 for a meal. What was the cost of the meal before the tip? 157) _____
 A) \$49.45 B) \$0.97 C) \$12.90 D) \$43.00
- 158) Andy left a 15% tip for a meal that cost \$59. What was the total cost of the meal including the tip? 158) _____
 A) \$8.85 B) \$76.70 C) \$50.15 D) \$67.85
- 159) Jennifer's annual salary increased from \$28,000 to \$43,000 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) 53.6% B) 34.9% C) 5.4% D) 0.5%
- 160) On a biology test, a student got 25 questions correct but did not pass. On a second attempt, the student got 33 questions correct. What was the percent of increase? 160) _____
 A) 32% B) 68% C) 8% D) 24.2%
- 161) Sales of frozen pizza for a club fund-raiser increased from 500 one year to 615 the next year. What was the percent of increase? 161) _____
 A) 81.3% B) 77% C) 23% D) 18.7%
- 162) By switching service providers, a family's telephone bill decreased from about \$50 a month to about \$44. What was the percent of decrease? 162) _____
 A) 12% B) 13.6% C) 13% D) 6%

- 163) Jennifer's annual salary was \$24,000 last year and increased 36% this year. Find Jennifer's current annual salary. 163) _____
 A) \$27,360 B) \$41,280 C) \$8640 D) \$32,640
- 164) The price of a printer was reduced from \$400 to \$240. What was the percent of decrease? 164) _____
 A) 66.7% B) 45% C) 60% D) 40%
- 165) The normal gasoline mileage of a car is 22 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) 2.6 mpg B) 50 mpg C) 24.6 mpg D) 22 mpg
- 166) Brand X copier has improved its copier so that it produces 25% more copies than its old model. If the old model ran 688 copies per hour, how many copies would the new model run? Round your answer to the nearest whole number. 166) _____
 A) 845 copies per hour B) 703 copies per hour
 C) 860 copies per hour D) 393 copies per hour
- 167) After spending \$3250 for tables and \$2350 for chairs a convention center manager finds that the furniture cost 3% 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) \$5773 B) \$2423 C) \$168 D) \$5437
- 168) Midtown Antiques has found that sales have decreased 4% from last year. Sales this year are \$119,958. Find the amount of last year's sales. Round your answer to the nearest dollar. 168) _____
 A) \$124,946 B) \$125,956 C) \$124,856 D) \$124,956
- 169) One half of a number is 3 more than one-sixth the same number. What is the number? 169) _____
 A) 9 B) 12 C) 8 D) 18
- 170) The sum of two consecutive integers is -387. Find the larger integer. 170) _____
 A) -195 B) -193 C) -194 D) -192
- 171) The sum of three consecutive integers is 438. Find the integers. 171) _____
 A) 146, 147, 148 B) 144, 145, 146 C) 145, 146, 147 D) 144, 146, 148
- 172) The sum of three consecutive odd integers is 159. Find the integers. 172) _____
 A) 51, 53, 55 B) 53, 55, 57 C) 46, 47, 48 D) 55, 57, 59
- 173) If three times the smaller of two consecutive integers is added to four times the larger, the result is 88. Find the smaller integer. 173) _____
 A) 36 B) 13 C) 12 D) 11

- 174) If the first and third of three consecutive odd integers are added, the result is 63 less than five times the second integer. Find the third integer. 174) _____
 A) 21 B) 42 C) 23 D) 19
- 175) Two angles of a triangle are 40° and 60° . What is the measure of the third angle? 175) _____
 A) -10° B) 80° C) 100° D) 260°
- 176) Find the measure of each angle in the triangle. 176) _____

 A) $46^\circ, 19^\circ, 25^\circ$ B) $64^\circ, 80^\circ, 16^\circ$ C) $46^\circ, 109^\circ, 25^\circ$ D) $44^\circ, 109^\circ, 25^\circ$
- 177) Find the measures of the supplementary angles. 177) _____

 A) 96.25° and 83.75° B) 202.5° and 157.5°
 C) 101.25° and 78.75° D) 50.63° and 39.38°
- 178) Find the length of a rectangular lot with a perimeter of 70 meters if the length is 5 meters more than the width. ($P = 2L + 2W$) 178) _____
 A) 20 m B) 40 m C) 35 m D) 15 m
- 179) A square plywood platform has a perimeter which is 6 times the length of a side, decreased by 14. Find the length of a side. 179) _____
 A) 9 B) 7 C) 1 D) 2
- 180) A rectangular Persian carpet has a perimeter of 184 inches. The length of the carpet is 24 inches more than the width. What are the dimensions of the carpet? 180) _____
 A) 58 in., 82 in. B) 80 in., 104 in. C) 34 in., 58 in. D) 68 in., 92 in.
- 181) A pie-shaped (triangular) lake-front lot has a perimeter of 1800 feet. One side is 200 feet longer than the shortest side, while the third side is 400 feet longer than the shortest side. Find the lengths of all three sides. 181) _____
 A) 500 ft, 500 ft, 500 ft B) 500 ft, 700 ft, 900 ft
 C) 100 ft, 200 ft, 300 ft D) 400 ft, 600 ft, 800 ft
- 182) If Gloria received a 6 percent raise and is now making \$24,380 a year, what was her salary before the raise? Round to the nearest dollar if necessary. 182) _____
 A) \$22,380 B) \$24,000 C) \$23,000 D) \$22,917

- 183) Stevie bought a stereo for \$245 and put it on sale at his store at a 65% markup rate. What was the retail price of the stereo? Round to the nearest cent if necessary. 183) _____
 A) \$490.00 B) \$345.00 C) \$404.25 D) \$304.25
- 184) On Monday, an investor bought 100 shares of stock. On Tuesday, the value of the shares went up 7%. How much did the investor pay for the 100 shares if he sold them Wednesday morning for \$1391? Round to the nearest dollar if necessary. 184) _____
 A) \$1350 B) \$1294 C) \$1341 D) \$1300
- 185) At the end of the day, a storekeeper had \$1050 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) \$53 B) \$50 C) \$55 D) \$41
- 186) Brand X copier advertises that its copiers run 10% longer between service calls than its competitor. If Brand X copiers run 42,400 copies between service calls, how many copies would the competitor run (to the nearest copy)? 186) _____
 A) 38,160 copies B) 46,640 copies C) 22,316 copies D) 38,545 copies
- 187) A high school graduating class is made up of 394 students. There are 74 more girls than boys. How many boys are in the class? 187) _____
 A) 160 boys B) 394 boys C) 74 boys D) 234 boys
- 188) A baseball team played 163 complete games last season. They had 53 fewer wins than losses. How many games did the team win? 188) _____
 A) 163 games B) 55 games C) 108 games D) 53 games
- 189) On a road trip from Chicago to New Orleans, Betsy 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) 900 miles B) 324 miles C) 600 miles D) 3240 miles
- 190) Every basketball season Bill competes in a free throw contest. This year Bill was successful at 0.6 of his free throws. If he succeeded at 18 free throws, how many free throws did he attempt? 190) _____
 A) 1800.6 free throws B) 108 free throws
 C) 30 free throws D) 10.8 free throws
- 191) CopyMart charges \$22 plus 40¢ per copy to produce promotional brochures. How many brochures can Steve purchase if he has a budget of \$62.40? (Hint: 40¢ = \$0.40) 191) _____
 A) 111 brochures B) 12 brochures C) 42 brochures D) 101 brochures
- 192) Recently, the cost of 19 6-oz jars of baby food was \$11.78. What was the cost of one jar? 192) _____
 A) \$1.86 B) \$0.62 C) \$0.31 D) \$1.24

Solve.

- 193) The height of the tallest building in Anne's home town is 719 feet, which is about 350 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) 482 ft B) 350 ft C) 1069 ft D) 369 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 3590 ft^2 . What is the area of Jon's backyard? 194) _____
A) 3590 ft^2 B) 3585 ft^2 C) 831 ft^2 D) 718 ft^2
- 195) A city government budgeted \$39.7 million for public transportation. This was \$16.4 million more than was budgeted for parks and recreation. How much was budgeted for parks and recreation? 195) _____
A) \$22.8 million B) \$24.3 million C) \$23.3 million D) \$27.3 million
- 196) Elaine was cooking dinner for some friends. She went out to do the shopping and spent \$60. She spent twice as much on food as on drinks. How much did she spend on each? 196) _____
A) Drinks: \$15; food: \$45 B) Drinks: \$30; food: \$60
C) Drinks: \$20; food: \$40 D) Drinks: \$15; food: \$30
- 197) A 396-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: 66 ft; second: 132 ft; third: 396 ft B) First: 44 ft; second: 88 ft; third: 264 ft
C) First: 50 ft; second: 99 ft; third: 297 ft D) First: 50 ft; second: 99 ft; third: 248 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 \$57 on the car rental for one day. How many miles can he drive and stay within his budget? (Hint: 20¢ = \$0.20) 198) _____
A) 159 mi B) 154 mi C) 164 mi D) 149 mi
- 199) You are traveling to your aunt's house that is 207 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) 34.5 mi B) 69 mi C) 103.5 mi D) 138 mi
- 200) Greg sold his used electric saw and accessories for \$580. If he received nine 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) \$58 B) \$522 C) \$68 D) \$5220
- 201) In West Arlington, taxis charge \$4.50 plus 50¢ per mile for an airport pickup. How far from the airport can Amy travel for \$23.50? (Hint: 50¢ = \$0.50) 201) _____
A) 94 mi B) 38 mi C) 47 mi D) 11.75 mi
- 202) Bill needs an average of 85 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 78, 80, and 94? 202) _____
A) 84 B) 85 C) 88 D) 84.3

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

203) $x > -12$, -7.34

A) Yes

B) No

203) _____

204) $x > 5$, 1.2

A) Yes

B) No

204) _____

205) $x < 3$, -3.24

A) Yes

B) No

205) _____

206) $x > 2$, -3.4

A) No

B) Yes

206) _____

207) $x \geq 5$, 7.02

A) No

B) Yes

207) _____

208) $x \geq 15$, 9.42

A) No

B) Yes

208) _____

209) $x \leq -2$, -5.5

A) Yes

B) No

209) _____

210) $x \leq -4$, 5

A) Yes

B) No

210) _____

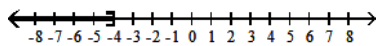
Graph the inequality.

211) $x > -4$

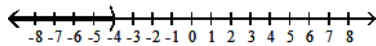
211) _____



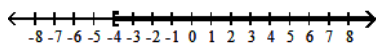
A)



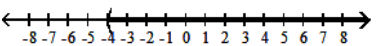
B)



C)



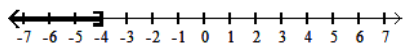
D)



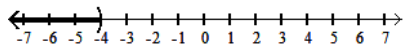
212) $x < -4$



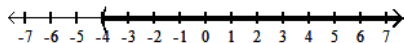
A)



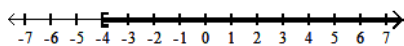
B)



C)



D)

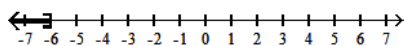


212) _____

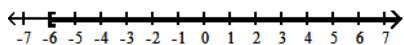
213) $x \geq -6$



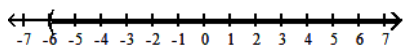
A)



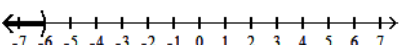
B)



C)

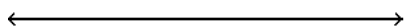


D)

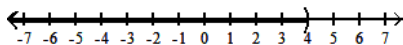


213) _____

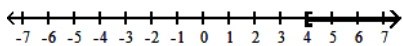
214) $x \leq 4$



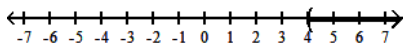
A)



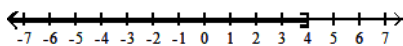
B)



C)



D)

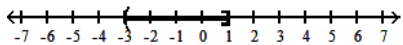


214) _____

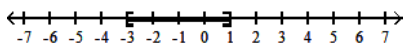
215) $-3 \leq x \leq 1$



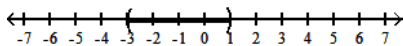
A)



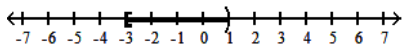
B)



C)



D)



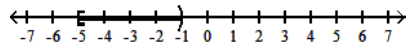
215) _____

216) $-5 < x < -1$

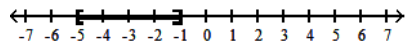
216) _____



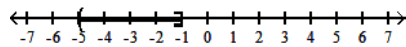
A)



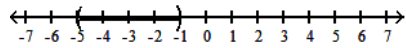
B)



C)

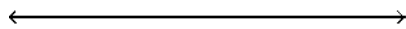


D)

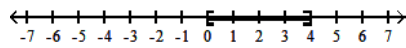


217) $0 \leq x < 4$

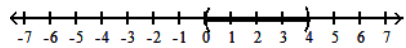
217) _____



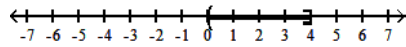
A)



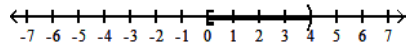
B)



C)



D)



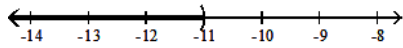
Solve using the addition principle. Graph and write set-builder notation for the answer.

218) $a - 12 < -23$

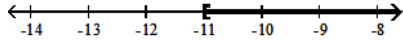
218) _____



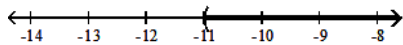
A) $\{a \mid a < -11\}$



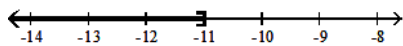
B) $\{a \mid a \geq -11\}$



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



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

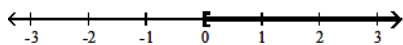


219) $7n - 3 > 6n + 3$

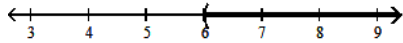
219) _____



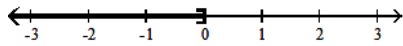
A) $\{n \mid n \geq 0\}$



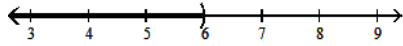
B) $\{n \mid n > 6\}$



C) $\{n \mid n \leq 0\}$

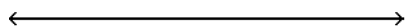


D) $\{n \mid n < 6\}$

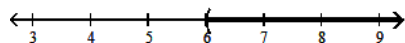


220) $6t - 1 \geq 5t + 2$

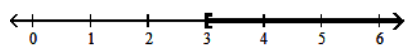
220) _____



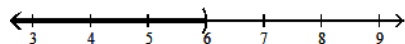
A) $\{t \mid t > 6\}$



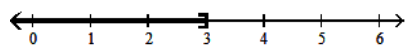
B) $\{t \mid t \geq 3\}$



C) $\{t \mid t < 6\}$

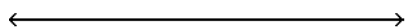


D) $\{t \mid t \leq 3\}$

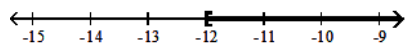


221) $f + 4 < -8$

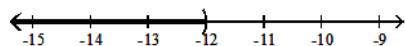
221) _____



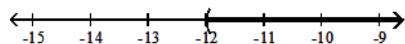
A) $\{f \mid f \geq -12\}$



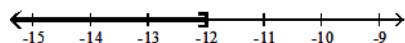
B) $\{f \mid f < -12\}$



C) $\{f \mid f > -12\}$



D) $\{f \mid f \leq -12\}$

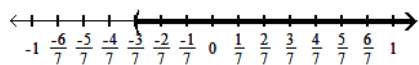


$$222) x + \frac{1}{7} > \frac{4}{7}$$

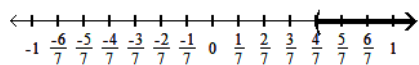
222) _____



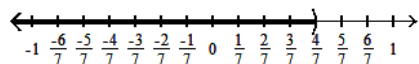
A) $\left\{x \mid x > -\frac{3}{7}\right\}$



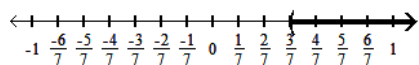
B) $\left\{x \mid x > \frac{3}{7}\right\}$



C) $\left\{x \mid x < \frac{4}{7}\right\}$



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

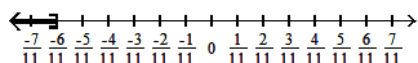


$$223) x - \frac{2}{11} \geq -\frac{8}{11}$$

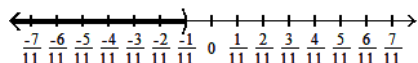
223) _____



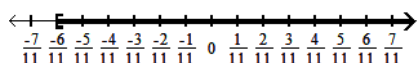
A) $\left\{x \mid x \leq -\frac{6}{11}\right\}$



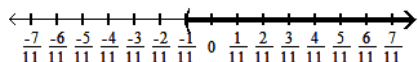
B) $\left\{x \mid x < -\frac{1}{11}\right\}$



C) $\left\{x \mid x \geq -\frac{6}{11}\right\}$



D) $\left\{x \mid x > -\frac{1}{11}\right\}$



Solve using the multiplication principle.

224) $2x \geq 10$

A) $\{x \mid x > 5\}$

B) $\{x \mid x \geq 5\}$

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

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

224) _____

225) $-5x < -30$

A) $\{x \mid x > -6\}$

B) $\{x \mid x < 6\}$

C) $\{x \mid x < -6\}$

D) $\{x \mid x > 6\}$

225) _____

226) $6x \leq -18$

A) $\{x \mid x \leq 3\}$

B) $\{x \mid x \geq 3\}$

C) $\{x \mid x \leq -3\}$

D) $\{x \mid x \geq -3\}$

226) _____

227) $-3b < \frac{1}{3}$

A) $\left\{b \mid b > \frac{1}{9}\right\}$

B) $\left\{b \mid b > -\frac{1}{9}\right\}$

C) $\left\{b \mid b < \frac{1}{9}\right\}$

D) $\left\{b \mid b < -\frac{1}{9}\right\}$

227) _____

- 228) $-5b < -\frac{1}{5}$ 228) _____
 A) $\{b \mid b > -\frac{1}{25}\}$ B) $\{b \mid b < \frac{1}{25}\}$ C) $\{b \mid b > \frac{1}{25}\}$ D) $\{b \mid b < -\frac{1}{25}\}$
- 229) $-2x < -\frac{1}{7}$ 229) _____
 A) $\{x \mid x > \frac{1}{14}\}$ B) $\{x \mid x > \frac{1}{7}\}$ C) $\{x \mid x < -\frac{1}{14}\}$ D) $\{x \mid x < \frac{1}{7}\}$
- 230) $\frac{4}{7} > -2x$ 230) _____
 A) $\{x \mid x > \frac{4}{7}\}$ B) $\{x \mid x < \frac{4}{7}\}$ C) $\{x \mid x < \frac{2}{7}\}$ D) $\{x \mid x > -\frac{2}{7}\}$
- Solve using the addition and multiplication principles.
- 231) $7 + 2x < -26$ 231) _____
 A) $\{x \mid x > \frac{19}{2}\}$ B) $\{x \mid x < -\frac{33}{2}\}$ C) $\{x \mid x < \frac{19}{2}\}$ D) $\{x \mid x > -\frac{33}{2}\}$
- 232) $-3z - 8 > -4z - 4$ 232) _____
 A) $\{z \mid z < 4\}$ B) $\{z \mid z > 4\}$ C) $\{z \mid z < -12\}$ D) $\{z \mid z > -12\}$
- 233) $10x + 8 \leq 9x - 1$ 233) _____
 A) $\{x \mid x \geq -9\}$ B) $\{x \mid x < 10\}$ C) $\{x \mid x \leq -9\}$ D) $\{x \mid x > 10\}$
- 234) $12y - 5 \geq 11y - 2$ 234) _____
 A) $\{y \mid y < 12\}$ B) $\{y \mid y > 12\}$ C) $\{y \mid y \leq 3\}$ D) $\{y \mid y \geq 3\}$
- 235) $11a + 2 \geq 12a + 12$ 235) _____
 A) $\{a \mid a \leq 11\}$ B) $\{a \mid a \leq -10\}$ C) $\{a \mid a \geq 10\}$ D) $\{a \mid a > 11\}$
- 236) $-2 - 9y - 8 \geq -10y - 20$ 236) _____
 A) $\{y \mid y > -9\}$ B) $\{y \mid y < -9\}$ C) $\{y \mid y \geq -10\}$ D) $\{y \mid y \leq -10\}$
- 237) $0.6x + 15 + x > 2x + 13 - 0.5x$ 237) _____
 A) $\{x \mid x \geq 2\}$ B) $\{x \mid x < -20\}$ C) $\{x \mid x < 2\}$ D) $\{x \mid x > -20\}$
- 238) $\frac{x}{2} + 14 \leq 10$ 238) _____
 A) $\{x \mid x < -6\}$ B) $\{x \mid x \leq 6\}$ C) $\{x \mid x \leq -8\}$ D) $\{x \mid x \geq -8\}$

239) $15x - 24 > 3(4x - 11)$ 239) _____
 A) $\{x | x \leq -3\}$ B) $\{x | x > -3\}$ C) $\{x | x < -3\}$ D) $\{x | x \geq -3\}$

240) $4 - \frac{7}{2}x + 3 > \frac{x}{2} + 1$ 240) _____
 A) $\{x | x < 2\}$ B) $\{x | x > 0\}$ C) $\{x | x > 2\}$ D) $\left\{x | x < \frac{3}{2}\right\}$

Translate the sentence to an inequality.

241) A number is greater than -1. 241) _____
 A) $x \leq -1$ B) $x < -1$ C) $x \geq -1$ D) $x > -1$

242) A number is less than or equal to 8. 242) _____
 A) $x \leq 8$ B) $x \geq 8$ C) $x > 8$ D) $x < 8$

243) John weighs at least 107 pounds. 243) _____
 A) $x \leq 107$ B) $x \geq 107$ C) $x < 107$ D) $x > 107$

244) The score on a test was between 87 and 68. 244) _____
 A) $68 < x < 87$ B) $x > 68$ C) $87 < x < 68$ D) $x < 87$

245) The cost is no more than \$962.69. 245) _____
 A) $x > 962.69$ B) $x \leq 962.69$ C) $x \geq 962.69$ D) $x < 962.69$

246) The number of people at a concert is not to exceed 4013. 246) _____
 A) $x \geq 4013$ B) $x < 4013$ C) $x > 4013$ D) $x \leq 4013$

247) The height of a member of the basketball team is at least 79 inches. 247) _____
 A) $x > 79$ B) $x \leq 79$ C) $x \geq 79$ D) $x < 79$

248) Five times a number less twenty-seven must be more than fifty. 248) _____
 A) $5(x - 27) \geq 50$ B) $5(x - 27) > 50$ C) $5x - 27 > 50$ D) $5x - 27 \geq 50$

249) Five added to half of a number is at most six. 249) _____
 A) $\frac{1}{2}x + 5 < 6$ B) $\frac{1}{2}x + 5 \geq 6$ C) $\frac{1}{2}x + 5 > 6$ D) $\frac{1}{2}x + 5 \leq 6$

Solve the problem.

250) A salesperson has two job offers. Company A offers a weekly salary of \$210 plus commission of 14% of sales. Company B offers a weekly salary of \$420 plus commission of 7% of sales. What is the amount of sales above which Company A's offer is the better of the two? 250) _____
 A) \$3100 B) \$1500 C) \$3000 D) \$6000

- 251) Company A rents copiers for a monthly charge of \$180 plus 6 cents per copy. Company B rents copiers for a monthly charge of \$360 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) 3000 copies B) 6100 copies C) 6000 copies D) 12,000 copies
- 252) A car rental company has two rental rates. Rate 1 is \$64 per day plus \$.16 per mile. Rate 2 is \$128 per day plus \$.08 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 5600 miles B) more than 78,400 miles
 C) more than 19,600 miles D) more than 39,900 miles
- 253) Jim has gotten scores of 89 and 86 on his first two tests. What score must he get on his third test to keep an average of 80 or greater? 253) _____
 A) At least 65 B) At least 64 C) At least 87.5 D) At least 85.0
- 254) A bag of marbles has twice as many blue marbles as green marbles, and the bag has at least 48 marbles in it. At least how many green marbles does it have? 254) _____
 A) At least 24 green marbles B) At least 16 green marbles
 C) At least 32 green marbles D) At least 17 green marbles
- 255) Jon has 1027 points in his math class. He must have 85% 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) 163 points B) 1190 points C) 373 points D) 873 points
- 256) DG's Plumbing and Heating charges \$50 plus \$70 per hour for emergency service. Bill remembers being billed just over \$200 for an emergency call. How long to the nearest hour was the plumber at Bill's house? 256) _____
 A) 13 hours B) 4 hours C) 2 hours D) 15 hours
- 257) A 7-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 $26\frac{2}{3}$ lb? 257) _____
 A) more than $29\frac{1}{2}$ weeks B) more than $50\frac{1}{2}$ weeks
 C) more than 19 week(s) D) more than $30\frac{1}{2}$ weeks
- 258) In order for a chemical reaction to take place, the Fahrenheit temperature of the reagents must be at least 133.09°F. Find the Celsius temperatures at which the reaction may occur. ($F = \frac{9}{5}C + 32$) 258) _____
 A) $C \geq 271.56^\circ$ B) $C \leq 56.16^\circ$ C) $C \geq 56.16^\circ$ D) $C < 271.56^\circ$

- 259) In order for a chemical reaction to remain stable, its Celsius temperature must be no more than 86.7°C. Find the Fahrenheit temperatures at which the reaction will remain stable. ($F = \frac{9}{5}C + 32$) 259) _____
 A) $F \leq 188.06^\circ$ B) $F \geq 30.39^\circ$ C) $F \leq 30.39^\circ$ D) $F \geq 188.06^\circ$
- 260) The equation $y = 0.005x + 0.40$ 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 \$3321? 260) _____
 A) $x \geq 664,280$ B) $0 < x \leq 664,119$ C) $x \leq 664,120$ D) $x \geq 664,120$
- 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 48.1 seconds or less? 261) _____
 A) 1955 or after B) 1979 or after C) 1980 or after D) 1981 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 48 dollars? (Y is the actual year.) 262) _____
 A) 2032 or after B) 2020 or after C) 2024 or after D) 2022 or after
- 263) One side of a rectangle is 12 inches and the other side is x inches. What values of x will make the perimeter at least 54? 263) _____
 A) $x \leq 15$ B) $0 < x \leq 15$ C) $x \geq 15$ D) $x < 15$
- 264) One side of a rectangle is 12 inches and the other side is x inches. What values of x will make the perimeter at most 44? 264) _____
 A) $x < 10$ B) $0 < x \leq 10$ C) $x \leq 10$ D) $x \geq 10$
- 265) One side of a rectangle is 2 times the other, and the perimeter is not to exceed 54. Find the possible values for x , the length of the shorter side. 265) _____
 A) $x \leq 9$ B) $0 < x \leq 18$ C) $x \geq 18$ D) $0 < x \leq 9$
- 266) One side of a triangle is 3 cm shorter than the base, x . The other side is 5 cm longer than the base. What lengths of the base will allow the perimeter of the triangle to be at least 35 cm? 266) _____
 A) $x \leq 16$ B) $x \geq 11$ C) $x > 8$ D) $0 < x \leq 11$
- 267) One side of a rectangle is 10 inches and the other side is x inches. Find the value of x if the area must be at least 90 square inches. 267) _____
 A) $x \leq 9$ B) $0 < x \leq 9$ C) $x = 9$ D) $x \geq 9$
- 268) The area of a triangle must be at most 82.5 square inches, the base is 15 inches, and the height is x inches. Find the possible values for x . 268) _____
 A) $x < 11$ B) $0 < x \leq 22$ C) $0 < x \leq 11$ D) $0 < x \leq 5.5$

- 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 405 in.² of cloth? 269) _____
 A) 45 in. B) 90 in. C) 22.5 in. D) 47 in.
- 270) A shop keeper is making a triangular sign for his store front, but he must keep the sign under 20 ft² to adhere to zoning laws. If the base of the sign is 20 ft, what is the maximum height of the triangular sign? 270) _____
 A) 0.500 ft B) 1.00 ft C) 2.0 ft D) 20 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 $3(6s - 9) = 18s - 27$ is given as 0. Is this correct? Explain. 272) _____
- 273) Write the steps you would use to solve this equation: $6(x - 1) + 7x = -3x$. 273) _____
- 274) What value of K makes this equation equivalent to $x = 3$? 274) _____
 $7x - 6 = K$
- 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 $x = 4$? 276) _____
 $6x + 14x - 8 = K + 5$
- 277) Find all values of s that make this statement true: $6(2s - 8) = 12s - 48$. 277) _____
- 278) Find all values of x that make this statement true: $(x - 4) + 1 = (x + 1) - 4$. 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: UNTITLED8

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

Answer Key

Testname: UNTITLED8

- 43) D
- 44) D
- 45) D
- 46) B
- 47) B
- 48) C
- 49) C
- 50) B
- 51) D
- 52) D
- 53) D
- 54) D
- 55) B
- 56) A
- 57) B
- 58) C
- 59) D
- 60) C
- 61) D
- 62) C
- 63) D
- 64) B
- 65) D
- 66) B
- 67) C
- 68) B
- 69) D
- 70) B
- 71) A
- 72) C
- 73) C
- 74) B
- 75) B
- 76) D
- 77) A
- 78) D
- 79) D
- 80) C
- 81) D
- 82) B
- 83) B
- 84) A

Answer Key

Testname: UNTITLED8

- 85) B
- 86) B
- 87) C
- 88) C
- 89) C
- 90) A
- 91) A
- 92) B
- 93) A
- 94) A
- 95) D
- 96) D
- 97) B
- 98) A
- 99) C
- 100) B
- 101) A
- 102) A
- 103) A
- 104) D
- 105) D
- 106) A
- 107) D
- 108) C
- 109) D
- 110) A
- 111) D
- 112) B
- 113) D
- 114) D
- 115) C
- 116) D
- 117) C
- 118) C
- 119) C
- 120) B
- 121) B
- 122) B
- 123) D
- 124) B
- 125) A
- 126) D

Answer Key

Testname: UNTITLED8

- 127) C
- 128) D
- 129) C
- 130) D
- 131) B
- 132) A
- 133) D
- 134) D
- 135) C
- 136) C
- 137) A
- 138) D
- 139) C
- 140) C
- 141) D
- 142) C
- 143) A
- 144) B
- 145) A
- 146) A
- 147) B
- 148) B
- 149) D
- 150) B
- 151) D
- 152) C
- 153) D
- 154) C
- 155) C
- 156) B
- 157) D
- 158) D
- 159) A
- 160) A
- 161) C
- 162) A
- 163) D
- 164) D
- 165) C
- 166) C
- 167) D
- 168) D

Answer Key

Testname: UNTITLED8

- 169) A
- 170) B
- 171) C
- 172) A
- 173) C
- 174) C
- 175) B
- 176) C
- 177) C
- 178) A
- 179) B
- 180) C
- 181) D
- 182) C
- 183) C
- 184) D
- 185) B
- 186) D
- 187) A
- 188) B
- 189) A
- 190) C
- 191) D
- 192) B
- 193) D
- 194) D
- 195) C
- 196) C
- 197) B
- 198) A
- 199) D
- 200) B
- 201) B
- 202) C
- 203) A
- 204) B
- 205) A
- 206) A
- 207) B
- 208) A
- 209) A
- 210) B

Answer Key

Testname: UNTITLED8

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

Answer Key

Testname: UNTITLED8

- 253) A
- 254) B
- 255) A
- 256) C
- 257) A
- 258) C
- 259) A
- 260) D
- 261) C
- 262) D
- 263) C
- 264) B
- 265) D
- 266) B
- 267) D
- 268) C
- 269) A
- 270) C
- 271) False. It has no solution.
- 272) No. The solution is all real numbers. Explanations will vary.
- 273) Answers will vary.
- 274) 15
- 275) 0
- 276) 67
- 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 $\frac{1}{2} m$