

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) $5x = 40$; 7 | | 1) _____ |
| A) Yes | B) No | |
| 2) $\frac{x}{5} = 9$; 45 | | 2) _____ |
| A) No | B) Yes | |
| 3) $p + 13 = 18$; 5 | | 3) _____ |
| A) No | B) Yes | |
| 4) $p - 6 = 4$; 10 | | 4) _____ |
| A) Yes | B) No | |
| 5) $3m + 5 = 16$; 3 | | 5) _____ |
| A) No | B) Yes | |
| 6) $3p + 6p - 8 = 10$; 2 | | 6) _____ |
| A) No | B) Yes | |

Solve the equation using the addition principle.

- | | | |
|------------------------|---------|-----------|
| 7) $b - 8 = -6$ | | 7) _____ |
| A) 14 | B) 2 | C) -14 |
| | | D) -2 |
| 8) $m + 2 = 7$ | | 8) _____ |
| A) 5 | B) -9 | C) -5 |
| | | D) 9 |
| 9) $9 = a + 2$ | | 9) _____ |
| A) 11 | B) -7 | C) -11 |
| | | D) 7 |
| 10) $-3 = x - 5$ | | 10) _____ |
| A) -8 | B) -2 | C) 2 |
| | | D) 8 |
| 11) $a - 8.46 = 0$ | | 11) _____ |
| A) -8.46 | B) 8.46 | C) 7.46 |
| | | D) -7.46 |
| 12) $-1 + a = 16$ | | 12) _____ |
| A) 15 | B) 17 | C) -15 |
| | | D) -17 |
| 13) $20 = -12 + a$ | | 13) _____ |
| A) -8 | B) -32 | C) 8 |
| | | D) 32 |
| 14) $-16.9 = 21.9 + z$ | | 14) _____ |
| A) -38.8 | B) -5 | C) 5 |
| | | D) 38.8 |

$$15) \frac{1}{5} + x = 10$$

$$A) 49$$

$$B) \frac{9}{5}$$

$$C) \frac{51}{5}$$

$$D) \frac{49}{5}$$

15) _____

$$16) x + \frac{7}{9} = \frac{8}{9}$$

$$A) \frac{7}{9}$$

$$B) \frac{5}{3}$$

$$C) 1$$

$$D) \frac{1}{9}$$

16) _____

$$17) m - \frac{2}{5} = \frac{1}{2}$$

$$A) 1$$

$$B) \frac{2}{5}$$

$$C) \frac{9}{10}$$

$$D) \frac{1}{10}$$

17) _____

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

$$A) \frac{9}{4}$$

$$B) \frac{17}{4}$$

$$C) 3$$

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

18) _____

$$19) x - \frac{11}{18} = -\frac{1}{2}$$

$$A) \frac{10}{9}$$

$$B) -\frac{10}{9}$$

$$C) -\frac{1}{9}$$

$$D) \frac{1}{9}$$

19) _____

Solve using the multiplication principle.

$$20) 3x = 30$$

$$A) 90$$

$$B) 10$$

$$C) 27$$

$$D) \frac{1}{10}$$

20) _____

$$21) 32 = 4x$$

$$A) 8$$

$$B) 128$$

$$C) 28$$

$$D) \frac{1}{8}$$

21) _____

$$22) -x = -9$$

$$A) -8$$

$$B) -\frac{1}{9}$$

$$C) -9$$

$$D) 9$$

22) _____

$$23) 8a = -56$$

$$A) -7$$

$$B) -64$$

$$C) 1$$

$$D) 64$$

23) _____

$$24) 54 = -9k$$

$$A) 1$$

$$B) 63$$

$$C) -63$$

$$D) -6$$

24) _____

$$25) -2x = -14$$

$$A) 7$$

$$B) 12$$

$$C) -12$$

$$D) 2$$

25) _____

26) $3b = -33$ A) 36	B) -11	C) 1	D) -36	26) _____
27) $-38 = 2z$ A) 1	B) 40	C) -40	D) -19	27) _____
28) $-112 = -8n$ A) 14	B) 104	C) -104	D) 2	28) _____
29) $-4s = -60$ A) 56	B) 15	C) -56	D) 2	29) _____
30) $\frac{x}{6} = 25$ A) 125	B) 144	C) 150	D) 31	30) _____
31) $\frac{-t}{4} = 14$ A) -18	B) -52	C) -56	D) -42	31) _____
32) $\frac{m}{-2} = 12$ A) -12	B) -14	C) -22	D) -24	32) _____
33) $\frac{1}{9}x = 12$ A) 108	B) 21	C) 96	D) 99	33) _____
34) $-\frac{1}{3}y = 16$ A) -45	B) -19	C) -32	D) -48	34) _____
35) $\frac{6}{7}x = 48$ A) $\frac{342}{7}$	B) $\frac{288}{7}$	C) $\frac{330}{7}$	D) 56	35) _____
36) $\frac{3}{5}k = 6$ A) 1	B) 8	C) 10	D) 7	36) _____
37) $\frac{1}{8} = \frac{4}{9}x$ A) $\frac{9}{32}$	B) $\frac{1}{18}$	C) 18	D) $\frac{32}{9}$	37) _____

- 38) $-\frac{1}{7}z = \frac{1}{8}$ 38) _____
 A) $\frac{7}{8}$ B) $-\frac{8}{7}$ C) $-\frac{7}{8}$ D) $-7\frac{1}{8}$
- 39) $-\frac{2}{5}t = \frac{5}{9}$ 39) _____
 A) $-\frac{25}{9}$ B) $\frac{25}{18}$ C) $-\frac{25}{18}$ D) $-\frac{18}{25}$
- 40) $\frac{8}{7}x = -\frac{48}{35}$ 40) _____
 A) $-\frac{32}{15}$ B) $-\frac{3}{10}$ C) $-\frac{15}{32}$ D) $-\frac{6}{5}$
- 41) $-\frac{4}{15}y = -\frac{16}{9}$ 41) _____
 A) $\frac{15}{16}$ B) $\frac{5}{12}$ C) $\frac{16}{15}$ D) $\frac{20}{3}$
- 42) $5.7x = 22.8$ 42) _____
 A) 18.8 B) 4 C) $\frac{1}{4}$ D) 17.1
- 43) $21.7 = 3.1y$ 43) _____
 A) 14.7 B) 18.6 C) 7 D) $\frac{1}{7}$
- 44) $-9.9y = 89.1$ 44) _____
 A) -9 B) -80.1 C) -79.2 D) $-\frac{1}{9}$
- 45) $2.9t = -20.3$ 45) _____
 A) -17.4 B) -13.3 C) $-\frac{1}{7}$ D) -7
- 46) $-59.2 = 7.4z$ 46) _____
 A) -51.8 B) -8 C) $-\frac{1}{8}$ D) -51.2
- 47) $-7.2m = -14.4$ 47) _____
 A) $\frac{1}{2}$ B) 12.4 C) 2 D) 7.2

- 48) $14.7x = 220.5$ 48) _____
 A) 205.5 B) 205.8 C) $\frac{1}{15}$ D) 15
- 49) $-43.7y = 699.2$ 49) _____
 A) -683.2 B) $-\frac{1}{16}$ C) -655.5 D) -16
- 50) $13.5t = -256.5$ 50) _____
 A) $-\frac{1}{19}$ B) -243 C) -19 D) -237.5
- 51) $-31.5m = -409.5$ 51) _____
 A) $\frac{1}{13}$ B) 396.5 C) 378 D) 13
- 52) $\frac{1}{13}b = -4.34$ 52) _____
 A) 8.66 B) 7.66 C) -3.00 D) -56.42
- 53) $-\frac{7}{3}x = -61.25$ 53) _____
 A) 26.25 B) 58.25 C) 12.25 D) 19.25
- 54) $-\frac{2}{7}x = 17.48$ 54) _____
 A) -59.18 B) -10.48 C) -5.26 D) -61.18
- Solve.**
- 55) $5r + 10 = 60$ 55) _____
 A) 2 B) 45 C) 10 D) 49
- 56) $7n - 8 = 48$ 56) _____
 A) 53 B) 49 C) 8 D) 14
- 57) $37 = 5x - 8$ 57) _____
 A) 9 B) 40 C) 15 D) 44
- 58) $156 = 14x + 16$ 58) _____
 A) 126 B) 4 C) 10 D) 130
- 59) $5x + 3 = -22$ 59) _____
 A) -4 B) -5 C) $-\frac{19}{5}$ D) -30

60) $3 + 4p = 5$				60) _____
A) $-\frac{1}{2}$	B) 2	C) $\frac{1}{2}$	D) $\frac{7}{4}$	
61) $-7x - 5 = -103$				61) _____
A) -14	B) -91	C) $\frac{108}{7}$	D) 14	
62) $-7n - 3 = 39$				62) _____
A) -35	B) 39	C) 6	D) -6	
63) $-15 = -3x + 6$				63) _____
A) 22	B) 7	C) 18	D) -7	
64) $\frac{1}{4}f - 4 = 1$				64) _____
A) 20	B) 21	C) -20	D) -21	
65) $\frac{1}{2}a - \frac{1}{2} = -4$				65) _____
A) 7	B) 9	C) -9	D) -7	
66) $11x + 4x = 30$				66) _____
A) 15	B) 2	C) $\frac{30}{11}$	D) $\frac{15}{22}$	
67) $-4x - 7x = -77$				67) _____
A) -66	B) -7	C) 7	D) 8	
68) $8y + 4 = 6y$				68) _____
A) 2	B) $-\frac{2}{7}$	C) $\frac{2}{7}$	D) -2	
69) $8x + 5 = 6x + 17$				69) _____
A) $\frac{6}{7}$	B) $\frac{11}{7}$	C) 8	D) 6	
70) $3x - 9 = 75 - 9x$				70) _____
A) -11	B) -14	C) -7	D) 7	
71) $5y - 7 = 9 + y$				71) _____
A) 4	B) $\frac{1}{3}$	C) $\frac{1}{2}$	D) $\frac{8}{3}$	
72) $2 - 5x = 3x - 6x - 12$				72) _____
A) 6	B) $\frac{5}{4}$	C) $\frac{3}{2}$	D) 7	

73) $-4a + 4 + 5a = 6 - 27$

A) -25

B) 37

C) 25

D) -37

73) _____

74) $-7b + 7 + 5b = -3b + 12$

A) 12

B) 5

C) -7

D) -12

74) _____

75) $6x - 8 + 7x = 5x + 94 - 9x$

A) 7

B) 8

C) 6

D) 5

75) _____

Solve. Clear fractions first.

76) $\frac{1}{14}y - 1 = 2$

A) 44

B) 42

C) -42

D) -44

76) _____

77) $\frac{3}{2}y - 90 = -36$

A) -36

B) 84

C) 36

D) 3

77) _____

78) $x + \frac{1}{4}x = 25$

A) 100

B) 5

C) 23

D) 20

78) _____

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

A) 60

B) 30

C) -60

D) -30

79) _____

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

A) 3

B) -12

C) -4

D) 4

80) _____

81) $\frac{5}{6} + \frac{1}{7}x = 8$

A) $\frac{18}{7}$

B) $\frac{301}{6}$

C) $\frac{287}{6}$

D) $\frac{7}{2}$

81) _____

82) $\frac{1}{2} + 2y = 3y - \frac{7}{6}$

A) $\frac{1}{3}$

B) $\frac{5}{3}$

C) $-\frac{2}{3}$

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

82) _____

83) $\frac{3}{4}x - \frac{1}{2}x = \frac{3}{4}x + 1$

A) $\frac{16}{7}$

B) -2

C) 1

D) $-\frac{1}{8}$

83) _____

$$84) x + \frac{7}{3} + \frac{1}{8}x = \frac{7}{2} + \frac{3}{4}x$$

A) $\frac{28}{15}$

B) $\frac{28}{9}$

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

D) $\frac{35}{9}$

84) _____

$$85) \frac{13}{12}x + \frac{1}{12}x = 10x + \frac{1}{6} + \frac{11}{12}x$$

A) $\frac{2}{123}$

B) $-\frac{1}{117}$

C) $\frac{1}{117}$

D) $-\frac{2}{117}$

85) _____

Solve.

$$86) 11.6x + 10.2x = 261.6$$

A) 13

B) 12

C) 14

D) 11

86) _____

$$87) 9.9y - 7.1y = 47.6$$

A) 16

B) 17

C) 18

D) 19

87) _____

$$88) 9.4x - 14.7x = -79.5$$

A) 17

B) 16

C) 15

D) 14

88) _____

Solve. Clear decimals first.

$$89) 44.1t + 396.9 = 25.2t + 226.8$$

A) 27

B) 9

C) -27

D) -9

89) _____

$$90) 2x + 1.1 = -44.5 + 9.6x$$

A) -53

B) 5.0

C) 4.8

D) 6

90) _____

$$91) 1.4y - 3.7 = 0.6y + 2.54$$

A) 7.8

B) -0.128

C) 8.58

D) 7.9

91) _____

$$92) -11.2q + 1.4 = -77.8 - 1.3q$$

A) 8

B) -89

C) 7.2

D) 7.1

92) _____

$$93) 27.2y - 190.4 = 47.6y - 333.2$$

A) 7

B) -21

C) 21

D) -7

93) _____

$$94) 8.64x + 69.12 = 5.76x + 46.08$$

A) -16

B) 16

C) 8

D) -8

94) _____

$$95) 2.88t - 20.16 = 5.76t - 40.32$$

A) -14

B) 7

C) -7

D) 14

95) _____

$$96) 5.52y - 38.64 + 9.2y = 11.04y - 77.28 + 64.4$$

A) 7

B) 21

C) -21

D) -7

96) _____

Solve.

$$97) 7(x - 28) = 14$$

A) 14

B) 26

C) 30

D) 28

97) _____

- 98) $8x - (4x - 1) = 2$ 98) _____
 A) $-\frac{1}{4}$ B) $\frac{1}{12}$ C) $\frac{1}{4}$ D) $-\frac{1}{12}$
- 99) $3(3x - 1) = 12$ 99) _____
 A) $\frac{5}{3}$ B) $\frac{13}{9}$ C) 1 D) $\frac{11}{9}$
- 100) $2(2z - 2) = 3(z + 5)$ 100) _____
 A) -11 B) 13 C) 19 D) 11
- 101) $\frac{1}{5}(10x - 15) = \frac{1}{4}(12x - 8)$ 101) _____
 A) 1 B) -6 C) -1 D) $\frac{1}{6}$
- 102) $(y - 5) - (y + 4) = 4y$ 102) _____
 A) $-\frac{9}{2}$ B) $-\frac{9}{4}$ C) $-\frac{1}{4}$ D) $-\frac{1}{2}$
- 103) $4(15x - 20) = 5(16x - 12)$ 103) _____
 A) $\frac{1}{7}$ B) -1 C) 1 D) -7
- 104) $3(x + 6) + 11 = 4(x + 5) + 12$ 104) _____
 A) 7 B) 11 C) 15 D) -3
- 105) $9 - 2(x + 5) = 13 - 6(x + 1)$ 105) _____
 A) 2 B) 10 C) 4 D) 16
- 106) $3[3 - 3(x + 1)] + 1 = 2(-23 - x) + 2x + 23$ 106) _____
 A) 0 B) 8 C) $\frac{8}{6}$ D) $\frac{8}{3}$
- 107) $0.9(5x + 15) = 2.3 - (x + 3)$ 107) _____
 A) $-\frac{62}{23}$ B) $-\frac{142}{55}$ C) $\frac{18}{55}$ D) $\frac{36}{7}$
- 108) $3.5(x + 2.5) - 7.5 = 2(x + 4) - 6$ 108) _____
 A) 0.5 B) 10.5 C) 8.5 D) 12.5
- 109) $14.1 - 7.1(x + 0.9) = 12 - 5(x + 3)$ 109) _____
 A) 21.1 B) 11.1 C) 16.1 D) 5.1
- 110) $3x - 7 + 5x - 3 = 5x + 3x + 10$ 110) _____
 A) 0 B) All real numbers
 C) No solution D) 10

- 111) $-9 + x = x - 9$ 111) _____
 A) All real numbers B) 18
 C) No solution D) 0
- 112) $4(x + 6) - (4x + 24) = 0$ 112) _____
 A) 0 B) 6
 C) All real numbers D) No solution
- 113) $5(2f - 31) = 10f - 155$ 113) _____
 A) 0 B) 1
 C) All real numbers D) No solution
- 114) $4(2g - 27) - 8g + 108 = 0$ 114) _____
 A) 2 B) No solution
 C) All real numbers D) -2
- 115) $4k + 30 = 2(2k + 13)$ 115) _____
 A) 2 B) -2
 C) All real numbers D) No solution
- 116) $-15s + 34 + 3(5s - 9) = 0$ 116) _____
 A) 1 B) All real numbers
 C) 5 D) No solution
- 117) $2[3 - (4 - 5r)] - r = -8 + 3(2 + 3r)$ 117) _____
 A) -4 B) All real numbers
 C) 8 D) No solution

Evaluate the formula for the given values of the variables.

- 118) $P = 2L + 2W$; $L = 3$ in., $W = 8$ in. 118) _____
 A) $P = 11$ in. B) $P = 22$ in. C) $P = 48$ in. D) $P = 96$ in.
- 119) $d = rt$; $r = 56$ miles per hour, $t = 6$ hours 119) _____
 A) $d = 336$ miles B) $d = 62$ miles C) $d = \frac{28}{3}$ miles D) $d = 672$ 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 8 teams and all teams play each other twice. How many games are played? 120) _____
 A) 56 games B) 8 games C) 24 games D) 72 games

Solve.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

D) $s = a + b - r$

125) $x = \frac{w + y + z}{6}$ for y 125) _____

A) $y = 6x + w + z$

B) $y = 6x - 6w - 6z$

C) $y = 6x - w - z$

D) $y = x - w - z - 6$

126) $V = 14s^3$ for s^3 126) _____

A) $s^3 = 14V$

B) $s^3 = \frac{14}{V}$

C) $s^3 = \frac{V}{14}$

D) $s^3 = V - 14$

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

127) What is 10% of 700? 127) _____

A) 70

B) 0.7

C) 700

D) 7

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

A) 300

B) 30

C) 0.3

D) 3

129) What is 38% of 1679? 129) _____

A) 63.8

B) 6380.2

C) 63,802

D) 638.02

130) What is 89% of 442? 130) _____

A) 393.38

B) 3933.8

C) 39,338

D) 39.34

131) What number is 8.1% of 24? 131) _____

A) 1.94

B) 0.19

C) 194

D) 19.4

132) What number is 7000% of 431? 132) _____

A) 3017

B) 301,700

C) 30,170

D) 3,017,000

133) What number is 180% of 427? 133) _____

A) 76,860

B) 76.86

C) 7686

D) 768.6

134) 57 is 90% of what number? 134) _____

A) 6.33

B) 633.3

C) 63.33

D) 51.3

- | | | | | | |
|---------------------------------|-----------|-----------|-----------|----------|------------|
| 135) 17 is 7% of what number? | A) 242.86 | B) 24.29 | C) 2428.6 | D) 119 | 135) _____ |
| 136) 33% of what number is 81? | A) 41 | B) 2454.5 | C) 245.45 | D) 0.41 | 136) _____ |
| 137) 10% of what number is 91? | A) 9100 | B) 91 | C) 910 | D) 9.1 | 137) _____ |
| 138) 86 is 114% of what number? | A) 129.96 | B) 12,996 | C) 75.44 | D) 754.4 | 138) _____ |

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

- | | | | | | |
|-----------------------------------|------------|------------|-----------|------------|------------|
| 139) 939 is what percent of 1810? | A) 51.9% | B) 192.8% | C) 0.1% | D) 0.5% | 139) _____ |
| 140) 990 is what percent of 742? | A) 0.1% | B) 133.4% | C) 1.3% | D) 74.9% | 140) _____ |
| 141) 4.1 is what percent of 20.9? | A) 509.8% | B) 5.1% | C) 0.2% | D) 19.6% | 141) _____ |
| 142) What percent of 2089 is 24? | A) 11.5% | B) 8704.2% | C) 21.5% | D) 1.1% | 142) _____ |
| 143) What percent of 8 is 0.04? | A) 50.0% | B) 200.0% | C) 0.5% | D) 5.0% | 143) _____ |
| 144) What percent of 187 is 11.7? | A) 0.2% | B) 1598.3% | C) 6.3% | D) 0.1% | 144) _____ |
| 145) What percent of 52 is 737? | A) 1417.3% | B) 0.7% | C) 141.7% | D) 0.1% | 145) _____ |
| 146) 84.8 is what percent of 9? | A) 1.1% | B) 942.2% | C) 10.6% | D) 9422.0% | 146) _____ |
| 147) What percent of 29 is 29? | A) 0% | B) 1% | C) 100% | D) 200% | 147) _____ |
| 148) What percent of 110 is 55? | A) 0% | B) 2% | C) 200% | D) 50% | 148) _____ |

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 500 students?

- A) About 100 students B) About 36 students
C) About 90 students D) About 180 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 500 students?

- A) About 180 students B) About 90 students
C) About 9 students D) About 45 students

Solve the problem.

- 151) The parking lot at a grocery store has 60 cars in it. 45% of the cars are blue. How many cars are blue? 151) _____

- A) 270 cars B) 133 cars C) 27 cars D) 13 cars

- 152) A chemical solution contains 3% salt. How much salt is in 4 mL of solution? 152) _____

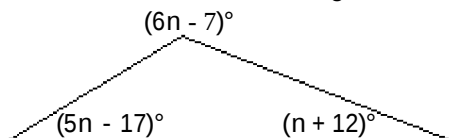
- A) 133.333 mL B) 1.2 mL C) 0.12 mL D) 13.333 mL

- 153) During one year, the Larson's real estate bill included \$434 for local schools. Of this amount, \$125 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) 71.20% B) 28.80% C) 28.57% D) 12.50%

- 154) During one year, the Green's real estate bill included \$315 for city services. The fire department received 23% of that amount. How much money went to the fire department? 154) _____
 A) \$52.45 B) \$77.00 C) \$7.25 D) \$72.45
- 155) During one year, the Cheung's real estate bill included \$200 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) 44.00% B) 55.50% C) 56.00% D) 11.20%
- 156) During one year, the Schmidt's real estate bill included \$268 for miscellaneous services. Of this amount, 65% went to the library fund. How much money did the library receive? 156) _____
 A) \$75.75 B) \$174.20 C) \$154.20 D) \$147.40
- 157) Sarah left a 15% tip of \$10.20 for a meal. What was the cost of the meal before the tip? 157) _____
 A) \$20.40 B) \$1.53 C) \$78.20 D) \$68.00
- 158) Andy left a 15% tip for a meal that cost \$38. What was the total cost of the meal including the tip? 158) _____
 A) \$5.70 B) \$32.30 C) \$43.70 D) \$49.40
- 159) Jennifer's annual salary increased from \$28,000 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) 75.0% B) 7.5% C) 42.9% D) 0.8%
- 160) On a biology test, a student got 25 questions correct but did not pass. On a second attempt, the student got 34 questions correct. What was the percent of increase? 160) _____
 A) 9% B) 64% C) 36% D) 26.5%
- 161) Sales of frozen pizza for a club fund-raiser increased from 500 one year to 645 the next year. What was the percent of increase? 161) _____
 A) 29% B) 77.5% C) 71% D) 22.5%
- 162) By switching service providers, a family's telephone bill decreased from about \$50 a month to about \$43. What was the percent of decrease? 162) _____
 A) 15% B) 16.3% C) 14% D) 7%
- 163) Jennifer's annual salary was \$25,000 last year and increased 32% this year. Find Jennifer's current annual salary. 163) _____
 A) \$24,000 B) \$33,000 C) \$41,000 D) \$8000
- 164) The price of a printer was reduced from \$400 to \$260. What was the percent of decrease? 164) _____
 A) 40% B) 65% C) 35% D) 53.8%
- 165) The normal gasoline mileage of a car is 20 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) 2.4 mpg B) 50 mpg C) 20 mpg D) 22.4 mpg

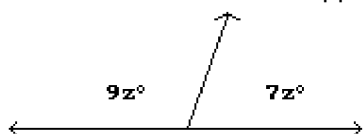
- 166) Brand X copier has improved its copier so that it produces 20% more copies than its old model. If the old model ran 662 copies per hour, how many copies would the new model run? Round your answer to the nearest whole number. 166) _____
 A) 677 copies per hour B) 794 copies per hour
 C) 368 copies per hour D) 779 copies per hour
- 167) After spending \$3650 for tables and \$2050 for chairs a convention center manager finds that the furniture cost 9% 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) \$6264 B) \$5229 C) \$2253 D) \$513
- 168) Midtown Antiques has found that sales have decreased 2% from last year. Sales this year are \$198,181. Find the amount of last year's sales. Round your answer to the nearest dollar. 168) _____
 A) \$202,216 B) \$202,226 C) \$203,226 D) \$202,126
- 169) One half of a number is 3 more than one-sixth the same number. What is the number? 169) _____
 A) 8 B) 12 C) 18 D) 9
- 170) The sum of two consecutive integers is -343. Find the larger integer. 170) _____
 A) -170 B) -172 C) -173 D) -171
- 171) The sum of three consecutive integers is 516. Find the integers. 171) _____
 A) 172, 173, 174 B) 171, 172, 173 C) 170, 171, 172 D) 170, 172, 174
- 172) The sum of three consecutive odd integers is 267. Find the integers. 172) _____
 A) 91, 93, 95 B) 87, 89, 91 C) 89, 91, 93 D) 82, 83, 84
- 173) If three times the smaller of two consecutive integers is added to four times the larger, the result is 116. Find the smaller integer. 173) _____
 A) 48 B) 16 C) 15 D) 17
- 174) If the first and third of three consecutive odd integers are added, the result is 75 less than five times the second integer. Find the third integer. 174) _____
 A) 25 B) 23 C) 27 D) 50
- 175) Two angles of a triangle are 40° and 60° . What is the measure of the third angle? 175) _____
 A) 260° B) 80° C) -10° D) 100°
- 176) Find the measure of each angle in the triangle. 176) _____



- A) $27^\circ, 89^\circ, 28^\circ$ B) $80^\circ, 96^\circ, 16^\circ$ C) $63^\circ, 89^\circ, 28^\circ$ D) $63^\circ, -1^\circ, 28^\circ$

177) Find the measures of the supplementary angles.

177) _____



A) 202.5° and 157.5°

B) 96.25° and 83.75°

C) 101.25° and 78.75°

D) 50.63° and 39.38°

178) Find the length of a rectangular lot with a perimeter of 122 meters if the length is 5 meters more than the width. ($P = 2L + 2W$)

178) _____

A) 28 m

B) 66 m

C) 61 m

D) 33 m

179) A square plywood platform has a perimeter which is 10 times the length of a side, decreased by 18. Find the length of a side.

179) _____

A) 3

B) 1

C) 6

D) 9

180) A rectangular Persian carpet has a perimeter of 224 inches. The length of the carpet is 24 inches more than the width. What are the dimensions of the carpet?

180) _____

A) 88 in., 112 in.

B) 100 in., 124 in.

C) 68 in., 92 in.

D) 44 in., 68 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) 100 ft, 200 ft, 300 ft

B) 500 ft, 700 ft, 1000 ft

C) 600 ft, 600 ft, 600 ft

D) 600 ft, 800 ft, 1100 ft

182) If Gloria received a 7 percent raise and is now making \$23,540 a year, what was her salary before the raise? Round to the nearest dollar if necessary.

182) _____

A) \$21,540

B) \$21,892

C) \$23,000

D) \$22,000

183) Stevie bought a stereo for \$225 and put it on sale at his store at a 55% markup rate. What was the retail price of the stereo? Round to the nearest cent if necessary.

183) _____

A) \$348.75

B) \$248.75

C) \$325.00

D) \$450.00

184) On Monday, an investor bought 100 shares of stock. On Tuesday, the value of the shares went up 2%. How much did the investor pay for the 100 shares if he sold them Wednesday morning for \$1479? Round to the nearest dollar if necessary.

184) _____

A) \$1450

B) \$1500

C) \$1449

D) \$1429

185) At the end of the day, a storekeeper had \$1456 in the cash register, counting both the sale of goods and the sales tax of 4%. Find the amount that is the tax. Round to the nearest dollar if necessary.

185) _____

A) \$47

B) \$56

C) \$61

D) \$58

186) Brand X copier advertises that its copiers run 22% longer between service calls than its competitor. If Brand X copiers run 39,000 copies between service calls, how many copies would the competitor run (to the nearest copy)?

186) _____

A) 47,580 copies

B) 31,967 copies

C) 30,420 copies

D) 21,910 copies

- 187) A high school graduating class is made up of 547 students. There are 111 more girls than boys. How many boys are in the class? 187) _____
 A) 329 boys B) 218 boys C) 547 boys D) 111 boys
- 188) A baseball team played 156 complete games last season. They had 54 fewer wins than losses. How many games did the team win? 188) _____
 A) 105 games B) 51 games C) 54 games D) 156 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) 600 miles B) 900 miles C) 324 miles D) 3240 miles
- 190) Every basketball season Phill competes in a free throw contest. This year Phill was successful at 0.5 of his free throws. If he succeeded at 18 free throws, how many free throws did he attempt? 190) _____
 A) 9 free throws B) 36 free throws
 C) 90 free throws D) 1800.5 free throws
- 191) CopyMart charges \$23 plus 47¢ per copy to produce promotional brochures. How many brochures can Steve purchase if he has a budget of \$86.92? (Hint: 47¢ = \$0.47) 191) _____
 A) 136 brochures B) 43 brochures C) 13 brochures D) 146 brochures
- 192) Recently, the cost of 12 6-oz jars of baby food was \$8.16. What was the cost of one jar? 192) _____
 A) \$0.68 B) \$0.34 C) \$1.36 D) \$2.04

Solve.

- 193) The height of the tallest building in Anne's home town is 699 feet, which is about 378 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) 1077 ft B) 434 ft C) 378 ft D) 321 ft
- 194) The area of Mark's backyard is about 3 times the area of Jon's backyard. The area of Mark's backyard is 2010 ft². What is the area of Jon's backyard? 194) _____
 A) 2007 ft² B) 670 ft² C) 783 ft² D) 2010 ft²
- 195) A city government budgeted \$36.7 million for public transportation. This was \$13.3 million more than was budgeted for parks and recreation. How much was budgeted for parks and recreation? 195) _____
 A) \$22.9 million B) \$24.4 million C) \$23.4 million D) \$27.4 million
- 196) Elaine was cooking dinner for some friends. She went out to do the shopping and spent \$120. She spent twice as much on food as on drinks. How much did she spend on each? 196) _____
 A) Drinks: \$30; food: \$60 B) Drinks: \$60; food: \$120
 C) Drinks: \$40; food: \$80 D) Drinks: \$30; food: \$90
- 197) A 209-foot rope is cut into three pieces. The second piece is twice as long as the first. The third piece is 4 times as long as the second. How long is each piece of rope? 197) _____
 A) First: 19 ft; second: 38 ft; third: 152 ft B) First: 26 ft; second: 52 ft; third: 209 ft
 C) First: 30 ft; second: 60 ft; third: 239 ft D) First: 26 ft; second: 52 ft; third: 131 ft

- 198) A car rental business rents a compact car at a daily rate of \$30.20 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) 134 mi B) 124 mi C) 139 mi D) 129 mi
- 199) You are traveling to your aunt's house that is 282 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) 47.0 mi B) 94 mi C) 141.0 mi D) 188 mi
- 200) Greg sold his used motorcycle and accessories for \$790. If he received nine times as much money for the motorcycle as he did for the accessories, how much did he receive for the motorcycle? 200) _____
 A) \$711 B) \$79 C) \$7110 D) \$89
- 201) In West Arlington, taxis charge \$3.00 plus 50¢ per mile for an airport pickup. How far from the airport can Amy travel for \$10.50? (Hint: 50¢ = \$0.50) 201) _____
 A) 15 mi B) 5.25 mi C) 42 mi D) 21 mi
- 202) Bill needs an average of 80 on four tests in science to make the honor roll. What is the lowest score he can receive on the fourth test if his first three scores are 75, 67, and 79? 202) _____
 A) 75.3 B) 99 C) 80 D) 73.7

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

- 203) $x > -12$, 5.7 203) _____
 A) No B) Yes
- 204) $x > 13$, -13 204) _____
 A) No B) Yes
- 205) $x < 8$, 0.7 205) _____
 A) Yes B) No
- 206) $x > 8$, -14 206) _____
 A) Yes B) No
- 207) $x \geq -1$, 13.5 207) _____
 A) Yes B) No
- 208) $x \geq -7$, -10.72 208) _____
 A) Yes B) No
- 209) $x \leq 2$, -9.55 209) _____
 A) No B) Yes
- 210) $x \leq -9$, 6.5 210) _____
 A) No B) Yes

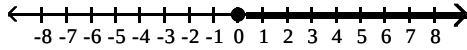
Graph the inequality.

211) $x > 0$

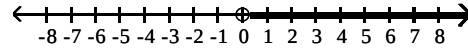
211) _____



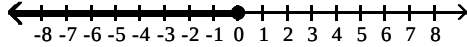
A)



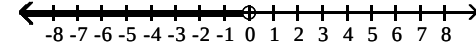
B)



C)

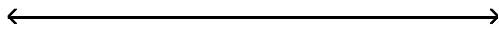


D)

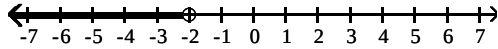


212) $x < -2$

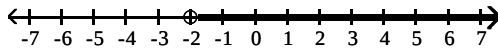
212) _____



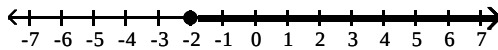
A)



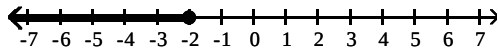
B)



C)

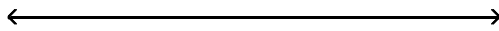


D)

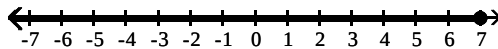


213) $x \geq 7$

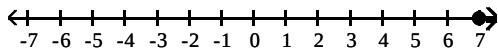
213) _____



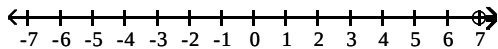
A)



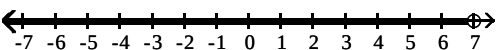
B)



C)



D)

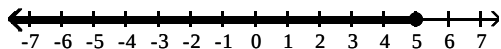


214) $x \leq 5$

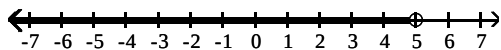
214) _____



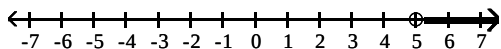
A)



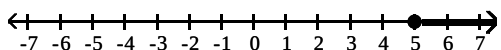
B)



C)



D)

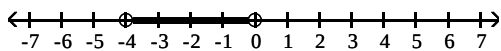


215) $-4 \leq x \leq 0$

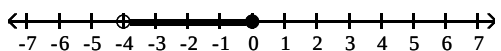
215) _____



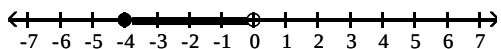
A)



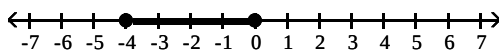
B)



C)



D)

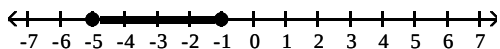


216) $-5 < x < -1$

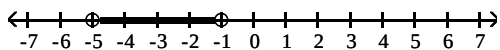
216) _____



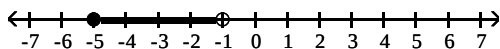
A)



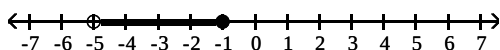
B)



C)



D)

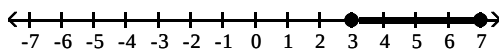


217) $3 \leq x < 7$

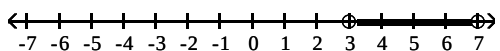
217) _____



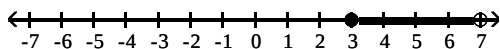
A)



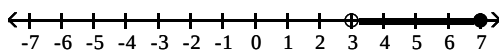
B)



C)



D)



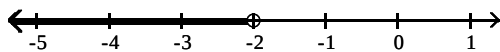
Solve using the addition principle. Graph and write set-builder notation for the answer.

218) $a - 10 < -12$

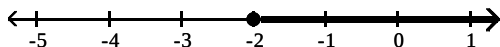
218) _____



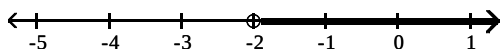
A) $\{a \mid a < -2\}$



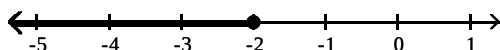
B) $\{a \mid a \geq -2\}$



C) $\{a \mid a > -2\}$



D) $\{a \mid a \leq -2\}$

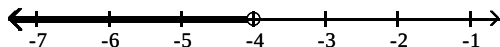


219) $9n + 5 > 8n + 1$

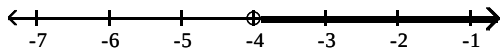
219) _____



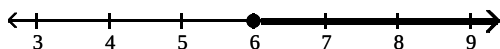
A) $\{n \mid n < -4\}$



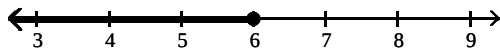
B) $\{n \mid n > -4\}$



C) $\{n \mid n \geq 6\}$

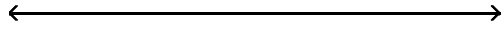


D) $\{n \mid n \leq 6\}$

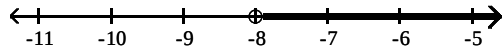


220) $-8t + 5 \geq -9t + 11$

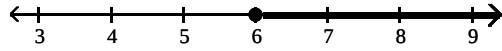
220) _____



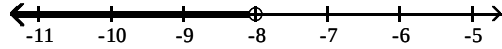
A) $\{t \mid t > -8\}$



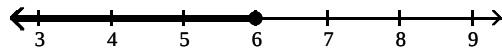
B) $\{t \mid t \geq 6\}$



C) $\{t \mid t < -8\}$

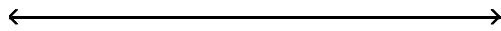


D) $\{t \mid t \leq 6\}$

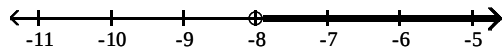


221) $f - 7 < -15$

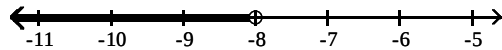
221) _____



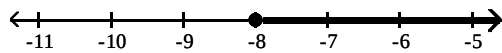
A) $\{f \mid f > -8\}$



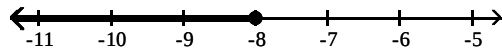
B) $\{f \mid f < -8\}$



C) $\{f \mid f \geq -8\}$



D) $\{f \mid f \leq -8\}$

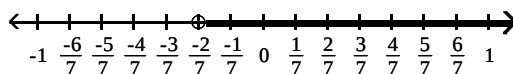


222) $x + \frac{2}{21} > \frac{8}{21}$

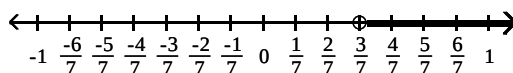
222) _____



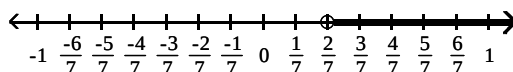
A) $\left\{x \mid x > -\frac{2}{7}\right\}$



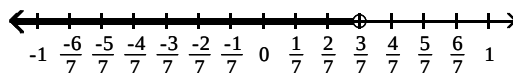
B) $\left\{x \mid x > \frac{2}{7}\right\}$



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

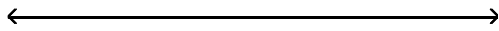


D) $\left\{x \mid x < \frac{3}{7}\right\}$

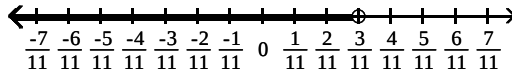


$$223) x + \frac{2}{11} \geq \frac{8}{11}$$

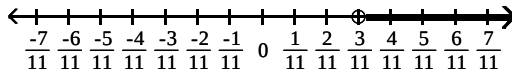
223) _____



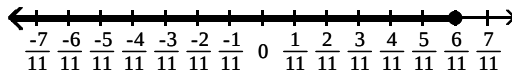
A) $\left\{x \mid x < \frac{3}{11}\right\}$



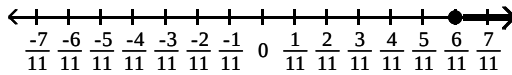
B) $\left\{x \mid x > \frac{3}{11}\right\}$



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



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



Solve using the multiplication principle.

224) $6k \geq 18$

224) _____

A) $\{k \mid k > 3\}$

B) $\{k \mid k \leq 3\}$

C) $\{k \mid k < 3\}$

D) $\{k \mid k \geq 3\}$

225) $-6a < -24$

225) _____

A) $\{a \mid a < 4\}$

B) $\{a \mid a > -4\}$

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

D) $\{a \mid a < -4\}$

226) $6b \leq -12$

226) _____

A) $\{b \mid b \leq 2\}$

B) $\{b \mid b \geq 2\}$

C) $\{b \mid b \geq -2\}$

D) $\{b \mid b \leq -2\}$

227) $-7x < \frac{1}{6}$

227) _____

A) $\left\{x \mid x < \frac{1}{42}\right\}$

B) $\left\{x \mid x > \frac{1}{42}\right\}$

C) $\left\{x \mid x < -\frac{1}{42}\right\}$

D) $\left\{x \mid x > -\frac{1}{42}\right\}$

228) $-4n < -\frac{1}{6}$

228) _____

A) $\left\{n \mid n < \frac{1}{24}\right\}$

B) $\left\{n \mid n < -\frac{1}{24}\right\}$

C) $\left\{n \mid n > \frac{1}{24}\right\}$

D) $\left\{n \mid n > -\frac{1}{24}\right\}$

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

A) $\left\{x \mid x > \frac{4}{7}\right\}$

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

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

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

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

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

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

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

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

Solve using the addition and multiplication principles.

231) $3 + 4x < -26$ 231) _____

A) $\left\{x \mid x < -\frac{29}{4}\right\}$

B) $\left\{x \mid x < \frac{23}{4}\right\}$

C) $\left\{x \mid x > -\frac{29}{4}\right\}$

D) $\left\{x \mid x > \frac{23}{4}\right\}$

232) $-4y - 1 > -5y - 5$ 232) _____

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

B) $\{y \mid y > -4\}$

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

D) $\{y \mid y < -4\}$

233) $6y + 6 \leq 5y + 5$ 233) _____

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

B) $\{y \mid y \geq -1\}$

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

D) $\{y \mid y \leq -1\}$

234) $-7a + 9 \geq -8a + 12$ 234) _____

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

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

C) $\{a \mid a \geq 3\}$

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

235) $4y - 1 \geq 5y - 7$ 235) _____

A) $\{y \mid y \geq -6\}$

B) $\{y \mid y \leq 6\}$

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

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

236) $-2 - 10x + 1 \geq -11x - 10$ 236) _____

A) $\{x \mid x \geq -9\}$

B) $\{x \mid x > -10\}$

C) $\{x \mid x \leq -9\}$

D) $\{x \mid x < -10\}$

237) $0.6x + 18 + x > 2x + 23 - 0.5x$ 237) _____

A) $\{x \mid x \geq -5\}$

B) $\{x \mid x > 50\}$

C) $\{x \mid x < 50\}$

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

238) $\frac{x}{2} + 9 \leq 7$ 238) _____

A) $\{x \mid x \leq 4\}$

B) $\{x \mid x < -2\}$

C) $\{x \mid x \geq -4\}$

D) $\{x \mid x \leq -4\}$

239) $30x - 5 > 5(5x - 4)$ 239) _____

A) $\{x \mid x > -3\}$

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

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

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

240) $1 - \frac{5}{2}x + 3 > \frac{x}{2} + 1$ 240) _____

A) $\left\{x \mid x > \frac{3}{2}\right\}$

B) $\left\{x \mid x < \frac{5}{3}\right\}$

C) $\{x \mid x < 1\}$

D) $\{x \mid x > -1\}$

Translate the sentence to an inequality.

- 241) A number is greater than -2. 241) _____
A) $x \geq -2$ B) $x \leq -2$ C) $x > -2$ D) $x < -2$
- 242) A number is less than or equal to -2. 242) _____
A) $x \leq -2$ B) $x < -2$ C) $x > -2$ D) $x \geq -2$
- 243) John weighs at least 72 pounds. 243) _____
A) $x > 72$ B) $x \geq 72$ C) $x < 72$ D) $x \leq 72$
- 244) The score on a test was between 83 and 70. 244) _____
A) $x < 83$ B) $83 < x < 70$ C) $70 < x < 83$ D) $x > 70$
- 245) The cost is no more than \$631.54. 245) _____
A) $x \geq 631.54$ B) $x \leq 631.54$ C) $x < 631.54$ D) $x > 631.54$
- 246) The number of people at a concert is not to exceed 3157. 246) _____
A) $x < 3157$ B) $x \geq 3157$ C) $x \leq 3157$ D) $x > 3157$
- 247) The height of a member of the basketball team is at least 81 inches. 247) _____
A) $x \geq 81$ B) $x < 81$ C) $x > 81$ D) $x \leq 81$
- 248) Five times a number less twenty-six must be more than sixty. 248) _____
A) $5(x - 26) \geq 60$ B) $5x - 26 > 60$ C) $5(x - 26) > 60$ D) $5x - 26 \geq 60$
- 249) Five added to half of a number is at most eight. 249) _____
A) $\frac{1}{2}x + 5 < 8$ B) $\frac{1}{2}x + 5 > 8$ C) $\frac{1}{2}x + 5 \geq 8$ D) $\frac{1}{2}x + 5 \leq 8$

Solve the problem.

- 250) A salesperson has two job offers. Company A offers a weekly salary of \$120 plus commission of 6% of sales. Company B offers a weekly salary of \$240 plus commission of 3% of sales. What is the amount of sales above which Company A's offer is the better of the two? 250) _____
A) \$4000 B) \$8000 C) \$4100 D) \$2000
- 251) Company A rents copiers for a monthly charge of \$240 plus 12 cents per copy. Company B rents copiers for a monthly charge of \$480 plus 6 cents per copy. What is the number of copies above which Company A's charges are the higher of the two? 251) _____
A) 4000 copies B) 8000 copies C) 4100 copies D) 2000 copies
- 252) A car rental company has two rental rates. Rate 1 is \$42 per day plus \$.14 per mile. Rate 2 is \$84 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 30,100 miles B) more than 58,800 miles
C) more than 14,700 miles D) more than 4200 miles
- 253) Jim has gotten scores of 87 and 61 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 91 B) At least 76.0 C) At least 92 D) At least 74

- 254) A bag of marbles has twice as many blue marbles as green marbles, and the bag has at least 39 marbles in it. At least how many green marbles does it have? 254) _____
 A) At least 13 green marbles B) At least 26 green marbles
 C) At least 20 green marbles D) At least 14 green marbles
- 255) Jon has 1035 points in his math class. He must have 87% 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) 900 points B) 365 points C) 183 points D) 1218 points
- 256) DG's Plumbing and Heating charges \$50 plus \$75 per hour for emergency service. Bill remembers being billed just over \$450 for an emergency call. How long to the nearest hour was the plumber at Bill's house? 256) _____
 A) 13 hours B) 7 hours C) 17 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 257) _____
 for the puppy's weight to exceed $31\frac{2}{3}$ lb?
 A) more than 61 weeks B) more than 35 weeks
 C) more than 34 weeks D) more than $22\frac{1}{4}$ week(s)
- 258) In order for a chemical reaction to take place, the Fahrenheit temperature of the reagents must be at least 166.17°F. Find the Celsius temperatures at which the reaction may occur. ($F = \frac{9}{5}C + 32$) 258) _____
 A) $C \geq 74.54^\circ$ B) $C \leq 74.54^\circ$ C) $C \geq 331.11^\circ$ D) $C < 331.11^\circ$
- 259) In order for a chemical reaction to remain stable, its Celsius temperature must be no more than 121.93°C. Find the Fahrenheit temperatures at which the reaction will remain stable. ($F = \frac{9}{5}C + 32$) 259) _____
 A) $F \geq 251.47^\circ$ B) $F \geq 49.96^\circ$ C) $F \leq 251.47^\circ$ D) $F \leq 49.96^\circ$
- 260) The equation $y = 0.005x - 0.20$ 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 \$2487? 260) _____
 A) $0 < x \leq 497,439$ B) $x \geq 497,440$ C) $x \geq 497,360$ D) $x \leq 497,440$
- 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) 1980 or after B) 1979 or after C) 1955 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 42 dollars? (Y is the actual year.) 262) _____
 A) 2021 or after B) 2009 or after C) 2013 or after D) 2011 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 48? 263) _____
 A) $x \leq 8$ B) $0 < x \leq 8$ C) $x < 8$ D) $x \geq 8$
- 264) One side of a rectangle is 5 inches and the other side is x inches. What values of x will make the perimeter at most 36? 264) _____
 A) $x \leq 13$ B) $x < 13$ C) $x \geq 13$ D) $0 < x \leq 13$
- 265) One side of a rectangle is 2 times the other, and the perimeter is not to exceed 72. Find the possible values for x , the length of the shorter side. 265) _____
 A) $0 < x \leq 24$ B) $x \geq 24$ C) $x \leq 12$ D) $0 < x \leq 12$
- 266) One side of a triangle is 4 cm shorter than the base, x . The other side is 6 cm longer than the base. What lengths of the base will allow the perimeter of the triangle to be at least 44 cm? 266) _____
 A) $x \geq 14$ B) $x \leq 20$ C) $x > 10$ D) $0 < x \leq 14$
- 267) One side of a rectangle is 13 inches and the other side is x inches. Find the value of x if the area must be at least 130 square inches. 267) _____
 A) $x \leq 10$ B) $x \geq 10$ C) $x = 10$ D) $0 < x \leq 10$
- 268) The area of a triangle must be at most 52 square inches, the base is 13 inches, and the height is x inches. Find the possible values for x . 268) _____
 A) $0 < x \leq 16$ B) $0 < x \leq 8$ C) $x < 8$ D) $0 < x \leq 4$
- 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 297 in.² of cloth? 269) _____
 A) 66 in. B) 35 in. C) 16.5 in. D) 33 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 16 ft, what is the maximum height of the triangular sign? 270) _____
 A) 2.5 ft B) 24 ft C) 0.625 ft D) 1.25 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 $4(9s - 5) = 36s - 20$ is given as 0. Is this correct? Explain. 272) _____
- 273) Write the steps you would use to solve this equation: $4(x - 1) + 7x = -2x$. 273) _____
- 274) What value of K makes this equation equivalent to $x = 3$? 274) _____
 $3x - 9 = K$
- 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 $x = 5$?

$$5x + 12x - 2 = K + 4$$

276) _____

277) Find all values of s that make this statement true: $4(8s - 6) = 32s - 24$.

277) _____

278) Find all values of x that make this statement true: $(x - 6) - 7 = (x - 7) - 6$.

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

Answer Key

Testname: UNTITLED2

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

Answer Key

Testname: UNTITLED2

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

Answer Key

Testname: UNTITLED2

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

Answer Key

Testname: UNTITLED2

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

Answer Key

Testname: UNTITLED2

- 251) A
- 252) D
- 253) C
- 254) A
- 255) C
- 256) D
- 257) C
- 258) A
- 259) C
- 260) B
- 261) A
- 262) D
- 263) D
- 264) D
- 265) D
- 266) A
- 267) B
- 268) B
- 269) D
- 270) A
- 271) False. It has no solution.
- 272) No. The solution is all real numbers. Explanations will vary.
- 273) Answers will vary.
- 274) 0
- 275) 0
- 276) 79
- 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 $\frac{1}{2}m$