

Exam

Name _____

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

Determine whether the number is a solution of the equation.

1) -30; $\frac{x}{-5} = 6$

A) Yes

B) No

Answer: A

2) -2; $x - 22 = 24$

A) Yes

B) No

Answer: B

3) -4; $2 + 3x = -10$

A) Yes

B) No

Answer: A

4) -2; $8 - 4x = 0$

A) Yes

B) No

Answer: B

5) -1; $x - 1 = x + 1$

A) Yes

B) No

Answer: B

6) -1; $x - 9 = x - 9$

A) Yes

B) No

Answer: A

7) 7; $2(x - 8) = 16$

A) Yes

B) No

Answer: B

8) -12; $2x - 7 = 3x + 5$

A) Yes

B) No

Answer: A

Solve the equation.

9) $-4x = 12$

A) $\{-16\}$

B) $\{1\}$

C) $\{-3\}$

D) $\{16\}$

Answer: C

10) $10 = x + 3$

A) $\{-7\}$

B) $\{7\}$

C) $\{13\}$

D) $\{-13\}$

Answer: B

- 11) $y - 5 = 18$
 A) $\{-13\}$ B) $\{23\}$ C) $\{-23\}$ D) $\{13\}$
 Answer: B
- 12) $5x + 7 = 22$
 A) $\{10\}$ B) $\{3\}$ C) $\{14\}$ D) $\{2\}$
 Answer: B
- 13) $9z - 2 = 43$
 A) $\{36\}$ B) $\{40\}$ C) $\{6\}$ D) $\{5\}$
 Answer: D
- 14) $6 = 2x - 8$
 A) $\{7\}$ B) $\{11\}$ C) $\{16\}$ D) $\{12\}$
 Answer: A
- 15) $11x - 27 = 2x + 27$
 A) $\{-6\}$ B) $\{6\}$ C) $\{-3\}$ D) $\{3\}$
 Answer: B
- 16) $4y + 4 = 8 - 4y$
 A) $\{-2\}$ B) $\{0\}$ C) $\{2\}$ D) $\left\{\frac{1}{2}\right\}$
 Answer: D
- 17) $4x - 8 = 7 - 6x$
 A) $\left\{-\frac{2}{3}\right\}$ B) $\left\{\frac{3}{2}\right\}$ C) $\{2\}$ D) $\left\{\frac{2}{3}\right\}$
 Answer: B
- 18) $8(y - 7) = 10y - 56$
 A) $\{0\}$ B) $\{-56\}$ C) $\{-112\}$ D) $\{56\}$
 Answer: A
- 19) $7x - 6 = 8(x - 2)$
 A) $\{10\}$ B) $\{22\}$ C) $\{-22\}$ D) $\{-10\}$
 Answer: A
- 20) $3(5x - 2) - 58 = 8x - 1$
 A) $\{441\}$ B) $\{-9\}$ C) $\{9\}$ D) $\{63\}$
 Answer: C
- 21) $-5x + 2 - 6x - 8 = 8$
 A) $\{14\}$ B) $\left\{\frac{14}{11}\right\}$ C) $\left\{-\frac{14}{11}\right\}$ D) $\left\{-\frac{18}{11}\right\}$
 Answer: C

22) $9x = 5(5x + 3)$

A) $\left\{\frac{5}{3}\right\}$

B) $\left\{-\frac{15}{16}\right\}$

C) $\left\{\frac{16}{15}\right\}$

D) $\left\{\frac{15}{16}\right\}$

Answer: B

23) $15(5x - 2) = 5x - 9$

A) $\left\{\frac{39}{70}\right\}$

B) $\left\{-\frac{3}{10}\right\}$

C) $\left\{\frac{21}{80}\right\}$

D) $\left\{\frac{3}{10}\right\}$

Answer: D

24) $-63(x + 8) = -72(x + 7)$

A) $\{0\}$

B) $\{-135\}$

C) $\{x | x \text{ is a real number}\}$

D) $\{\emptyset\}$

Answer: A

25) $4(x + 7) = 5(x - 3)$

A) $\{43\}$

B) $\{13\}$

C) $\{x | x \text{ is a real number}\}$

D) $\{\emptyset\}$

Answer: A

26) $(x - 8) - (x + 2) = 9x$

A) $\left\{-\frac{5}{3}\right\}$

B) $\left\{-\frac{5}{4}\right\}$

C) $\left\{-\frac{10}{9}\right\}$

D) $\left\{-\frac{7}{9}\right\}$

Answer: C

27) $8(y + 4) - (7y - 9) = -3$

A) $\{44\}$

B) $\{16\}$

C) $\{38\}$

D) $\{-44\}$

Answer: D

28) $-6(z + 7) - (-7z - 6) = -4$

A) $\{-40\}$

B) $\{17\}$

C) $\{-32\}$

D) $\{32\}$

Answer: D

29) $4x - 3 - 6x = x + 13 + x$

A) $\{-4\}$

B) $\left\{-\frac{5}{2}\right\}$

C) $\{4\}$

D) $\emptyset$

Answer: A

30) $-(2x - 5) - (3x - 6) + 5 = -5(x - 1) - (2x + 1) + 2$

A) $\{5\}$

B) $\{11\}$

C) $\left\{-\frac{5}{2}\right\}$

D) $\{-5\}$

Answer: D

31) $x - 21.9 = -13.8$

A) $\{-8.1\}$

B) $\{35.7\}$

C) $\{-35.7\}$

D) $\{8.1\}$

Answer: D

32) $21.9 = -21.7 - x$

A) $\{-43.6\}$

B) $\{-0.2\}$

C) $\{43.6\}$

D) $\{0.2\}$

Answer: A

33) $1.3x + 2.1 = 0.8x - 2.7$

A) $\{-9.5\}$

B) $\{-9.6\}$

C) $\{0.104\}$

D) $\{-8.64\}$

Answer: B

34) $\frac{x}{3} - \frac{x}{4} = 6$

A) $\{24\}$

B) $\{12\}$

C) $\{72\}$

D) $\{18\}$

Answer: C

35) $\frac{1}{2} - \frac{x}{3} = \frac{11}{6}$

A) $\{4\}$

B) $\left\{-\frac{8}{3}\right\}$

C) $\left\{\frac{8}{3}\right\}$

D) $\{-4\}$

Answer: D

36) $\frac{x}{5} = \frac{x}{3} + \frac{9}{5}$

A) $\left\{-\frac{2}{27}\right\}$

B) $\{0\}$

C) $\left\{-\frac{9}{5}\right\}$

D) $\left\{-\frac{27}{2}\right\}$

Answer: D

37) $\frac{x}{3} - \frac{x}{7} = 9$

A) $\{21\}$

B) $\{27\}$

C) $\{63\}$

D) $\left\{\frac{189}{4}\right\}$

Answer: D

38) $\frac{2x}{5} - \frac{x}{3} = 4$

A) $\{-60\}$

B) $\{60\}$

C) $\{120\}$

D) $\{-120\}$

Answer: B

39) $\frac{15x}{4} + \frac{3}{2} = \frac{7x}{2}$

A) $\{-20\}$

B) $\{6\}$

C) $\{20\}$

D) $\{-6\}$

Answer: D

40) $\frac{x+9}{2} + \frac{x-2}{4} = \frac{19}{4}$

A) $\{38\}$

B) $\{0\}$

C) $\{1\}$

D) $\left\{\frac{31}{2}\right\}$

Answer: C

$$41) \frac{x+2}{2} - \frac{5x-12}{7} = 1$$

A) $\{8\}$

B) $\{4\}$

C) $\{-8\}$

D) $\{-24\}$

Answer: A

$$42) \frac{1}{5}(x+15) - \frac{1}{9}(x-9) = x+7$$

A) $\left\{-\frac{135}{41}\right\}$

B) $\left\{-\frac{495}{41}\right\}$

C) $\left\{-\frac{225}{41}\right\}$

D) $\left\{-\frac{405}{41}\right\}$

Answer: A

$$43) 0.01y + 0.12(800 - y) = 0.14y$$

A) $\{240\}$

B) $\{384\}$

C) $\{24\}$

D) $\{768\}$

Answer: B

$$44) \frac{2x-1}{6} + x = \frac{2x+1}{2} + 4$$

A) $\{14\}$

B) $\{6\}$

C) $\{-13\}$

D) $\left\{-\frac{8}{3}\right\}$

Answer: A

$$45) 1.8(2 - x) = 1.6(2 - x)$$

A) $\{2\}$

B) $\{0.4\}$

C) $\{0\}$

D) $\{34\}$

Answer: A

$$46) 2x - 1 - 9x - 8 = 5x - 12x - 12$$

A) $\emptyset$

C) $\{0\}$

B) $\{-288\}$

D) $\{x|x \text{ is a real number}\}$

Answer: A

$$47) 5(x+5) = (5x+25)$$

A) $\{50\}$

C) $\{0\}$

B) $\{x|x \text{ is a real number}\}$

D) $\emptyset$

Answer: B

$$48) 3(x+4) - (3x+12) = 0$$

A) $\{x|x \text{ is a real number}\}$

C) $\{4\}$

B) $\emptyset$

D) $\{0\}$

Answer: A

$$49) -4(x-6) - 66 = 2x - 6(x+3)$$

A) $\{-48\}$

C) $\emptyset$

B) $\{-84\}$

D) $\{x|x \text{ is a real number}\}$

Answer: C

$$50) 3(x+4) + 5 = 3x+2$$

A) $\{x|x \text{ is a real number}\}$

C) $\emptyset$

B) $\{11\}$

D) $\{15\}$

Answer: C

51) $5(x - 1) + x = 6(x + 1) - 11$

A) $\emptyset$

B) $\{0\}$

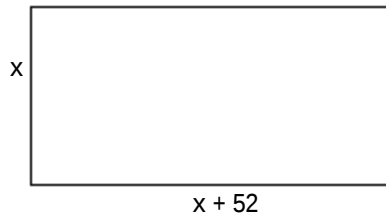
C) $\{x \mid x \text{ is a real number}\}$

D) $\{5\}$

Answer: C

Write the following as an algebraic expression. Then simplify.

52) The perimeter of the rectangle with width x and length $x + 52$.



A) $4x + 52$

B) $x^2 + 52x$

C) $2x + 52$

D) $4x + 104$

Answer: D

53) The sum of three even consecutive integers if the first integer is y .

A) $3y + 6$

B) 6

C) $3y + 3$

D) $3y$

Answer: A

54) The perimeter of a triangle whose sides are of lengths $5x$, $5x - 5$, and x .

A) $10x - 5$

B) $25x^2 - 25x$

C) $11x - 5$

D) $5x$

Answer: C

55) The sum of three consecutive integers if the last integer is z .

A) $3z - 3$

B) $3z$

C) $3z + 3$

D) $3z + 6$

Answer: A

56) The perimeter of a square with sides of length $x - 6$.

A) $x - 24$

B) $4x - 24$

C) $4x - 6$

D) $x^2 + -12x + 36$

Answer: B

57) The total value of money (in cents) of $(7x - 2)$ nickels, $6x$ dimes, and x quarters.

A) $(95x - 10)$ cents

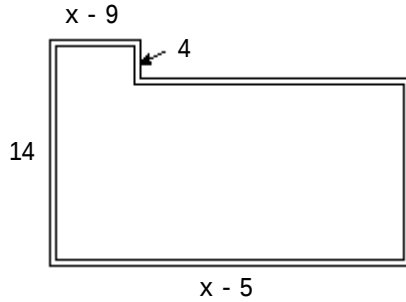
B) $(120x - 2)$ cents

C) $(120x - 10)$ cents

D) $(120x + 10)$ cents

Answer: C

58) The perimeter of the floor plan shown.



A) $2x + 18$

B) $2x$

C) $2x + 56$

D) 56

Answer: A

Solve.

59) Four times the sum of some number plus 3 is equal to 8 times the number minus 12.

A) -24

B) 24

C) -6

D) 6

Answer: D

60) The difference of a number and 8 is the same as 46 less the number. Find the number.

A) 27

B) 19

C) -27

D) -19

Answer: A

61) Seven times some number added to 8 amounts to -10 added to the product of 4 and the number.

A) 18

B) -18

C) -6

D) 6

Answer: C

62) A region consists of 2565 thousand acres of farm land. If 30% of this land is privately owned, find how many acres are not privately owned.

A) 1795.5 thousand acres

B) 769.5 thousand acres

C) 1795.5 acres

D) 769.5 acres

Answer: A

63) A diamond ring sold for \$2570.40 including tax. If the tax rate where the diamond was purchased is 7.1%, find the price of the ring before the tax was added. (Round to the nearest cent, if necessary.)

A) \$182.50

B) \$2752.90

C) \$2400.00

D) \$2387.90

Answer: C

64) The three most prominent buildings in a city, Washington Center, Lincoln Galleria, and Jefferson Square Tower, have a total height of 1800 feet. Find the height of each building if Jefferson Square Tower is three times as tall as Lincoln Galleria and Washington Center is 350 feet taller than Lincoln Galleria.

A) Washington Center: 240 feet

B) Washington Center: 430 feet

Lincoln Galleria: 80 feet

Lincoln Galleria: 80 feet

Jefferson Square Tower: 1480 feet

Jefferson Square Tower: 1290 feet

C) Washington Center: 640 feet

D) Washington Center: 630 feet

Lincoln Galleria: 290 feet

Lincoln Galleria: 210 feet

Jefferson Square Tower: 870 feet

Jefferson Square Tower: 960 feet

Answer: C

65) The sum of three consecutive even integers is 318. Find the integers.

A) 105, 106, 107

B) 104, 106, 108

C) 106, 108, 110

D) 102, 104, 106

Answer: B

66) The population of a town increased by 80% in 5 years. If the population is currently 40,000, find the population of this town 5 years ago. (Round to the nearest whole, if necessary.)

A) 8000

B) 50,000

C) 32,000

D) 22,222

Answer: D

67) Find the measures of the angles of a triangle if the measure of the first angle is four times the measure of the second angle and the third angle is 30° more than the second angle.

A) 100° , 25° , 55°

B) 35° , 5° , 140°

C) 68° , 17° , 95°

D) 20° , 5° , 155°

Answer: A

68) A publisher printed 84 million pages in its production process last year. If this represents a 120% increase over the number of pages printed the previous year, how many pages were printed the previous year? (Round to the nearest hundredth million, if necessary.)

A) 14,400 million pages

B) 700 million pages

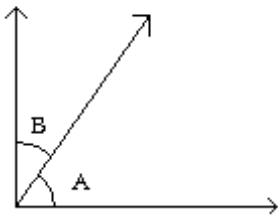
C) 70 million pages

D) 144 million pages

Answer: C

69) Angle A and angle B are complementary angles and angle A is 2° more than three times angle B. Find the measures of angle A and angle B.

Complementary Angles



A) $A = 48^\circ$, $B = 42^\circ$

B) $A = 68^\circ$, $B = 22^\circ$

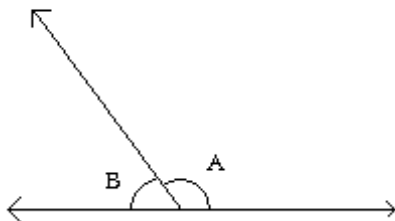
C) $A = 42^\circ$, $B = 48^\circ$

D) $A = 22^\circ$, $B = 68^\circ$

Answer: B

70) Angle A and angle B are supplementary angles and angle A is 35° less than four times angle B. Find the measures of angle A and angle B.

Supplementary Angles



A) $A = 151^\circ$, $B = 29^\circ$

B) $A = 137^\circ$, $B = 43^\circ$

C) $A = 131.7^\circ$, $B = 48.3^\circ$

D) $A = 172^\circ$, $B = 8^\circ$

Answer: B

- 71) The cost C to produce x number of tennis rackets is $C = 190 + 18x$. The tennis rackets are sold wholesale for \$23 each, so revenue R is given by $R = 23x$. Find how many tennis rackets the manufacturer needs to produce and sell to break even.

A) 43 tennis rackets B) 33 tennis rackets C) 19 tennis rackets D) 38 tennis rackets

Answer: D

- 72) The president of a certain university makes three times as much money as one of the department heads. If the total of their salaries is \$250,000, find each worker's salary.

A) president's salary = \$18,750; department head's salary = \$6250
 B) president's salary = \$187,500; department head's salary = \$62,500
 C) president's salary = \$125,000; department head's salary = \$62,500
 D) president's salary = \$62,500; department head's salary = \$187,500

Answer: B

- 73) A promotional deal for long distance phone service charges a \$15 basic fee plus \$0.05 per minute for all calls. If Joe's phone bill was \$62 under this promotional deal, how many minutes of phone calls did he make? Round to the nearest integer, if necessary.

A) 9 B) 1540 C) 2 D) 940

Answer: D

- 74) A car rental agency advertised renting a luxury, full-size car for \$29.95 per day and \$0.29 per mile. If you rent this car for 4 days, how many whole miles can you drive if you only have \$200 to spend.

A) 50 B) 572 C) 276 D) 21

Answer: C

- 75) A 9-ft. board is cut into 2 pieces so that one piece is 5 feet longer than 3 times the shorter piece. If the shorter piece is x feet long, find the lengths of both pieces.

A) shorter piece: 1 ft.; longer piece: 8 ft. B) shorter piece: 22 ft; longer piece: 27 ft.
 C) shorter piece: 4.5 ft; longer piece: 27 ft. D) shorter piece: 15 ft; longer piece: 32 ft.

Answer: A

- 76) In a recent International Gymnastics competition, the U.S., China, and Romania were the big winners. If the total number of medals won by each team are three consecutive integers whose sum is 81 and the U.S. won more than China who won more than Romania, how many medals did each team win?

A) U.S.: 29 medals; China: 28 medals; Romania: 27 medals
 B) U.S.: 83 medals; China: 82 medals; Romania: 81 medals
 C) U.S.: 28 medals; China: 27 medals; Romania: 26 medals
 D) U.S.: 26 medals; China: 25 medals; Romania: 24 medals

Answer: C

Solve the equation for the specified variable.

- 77) $d = rt$ for r

A) $r = \frac{d}{t}$ B) $r = \frac{t}{d}$ C) $r = dt$ D) $r = d - t$

Answer: A

- 78) $I = Prt$ for P

A) $P = \frac{r - 1}{It}$ B) $P = r - It$ C) $P = \frac{r - I}{1 + t}$ D) $P = \frac{I}{rt}$

Answer: D

79) $V = lwh$ for w

A) $w = \frac{Vl}{h}$

B) $w = \frac{Vh}{l}$

C) $w = Vlh$

D) $w = \frac{V}{lh}$

Answer: D

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

A) $h = \frac{b}{2A}$

B) $h = \frac{Ab}{2}$

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

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

Answer: D

81) $V = \frac{1}{3}Ah$ for h

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

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

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

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

Answer: C

82) $P = a + b + c$ for c

A) $c = P - a - b$

B) $c = P + a + b$

C) $c = P + a - b$

D) $c = a + b - P$

Answer: A

83) $P = 2L + 2W$ for L

A) $L = \frac{P - W}{2}$

B) $L = \frac{P - 2W}{2}$

C) $L = P - W$

D) $L = P - 2W$

Answer: B

84) $A = P(1 + rt)$ for r

A) $r = \frac{P - A}{Pt}$

B) $r = \frac{Pt}{A - P}$

C) $r = \frac{A}{t}$

D) $r = \frac{A - P}{Pt}$

Answer: D

85) $A = \frac{1}{2}h(B + b)$ for b

A) $b = \frac{2A - Bh}{h}$

B) $b = \frac{A - Bh}{h}$

C) $b = \frac{2A + Bh}{h}$

D) $b = 2A - Bh$

Answer: A

86) $I = \frac{nE}{nr + R}$ for n

A) $n = \frac{IR}{Ir + E}$

B) $n = \frac{-IR}{Ir - E}$

C) $n = IR(Ir - E)$

D) $n = \frac{-R}{Ir - E}$

Answer: B

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

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

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

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

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

Answer: B

88) $S = 2\pi rh + 2\pi r^2$ for h

A) $h = 2\pi(S - r)$

B) $h = S - r$

C) $h = \frac{S}{2\pi r} - 1$

D) $h = \frac{S - 2\pi r^2}{2\pi r}$

Answer: D

89) $6x - 7y = 4$ for y

A) $y = \frac{6x + 4}{7}$

B) $y = \frac{4 - 6x}{7}$

C) $y = 6x - 4$

D) $y = \frac{6x - 4}{7}$

Answer: D

90) $8x + 7y = 10$ for y

A) $y = \frac{8}{7}x - \frac{10}{7}$

B) $y = \frac{8x - 10}{7}$

C) $y = \frac{10 - 8x}{7}$

D) $y = \frac{8x + 10}{7}$

Answer: C

Use the formula $A = P\left(1 + \frac{r}{n}\right)^{nt}$ to find the amount requested.

- 91) A principal of \$1,000 is invested in an account paying an annual interest rate of 11%. Find the amount in the account after 12 years if the account is compounded annually.

A) \$2498.45

B) \$3883.28

C) \$3151.76

D) \$3498.45

Answer: D

- 92) A principal of \$1,000 is invested in an account paying an annual interest rate of 5%. Find the amount in the account after 9 years if the account is compounded semiannually.

A) \$1551.33

B) \$559.66

C) \$1559.66

D) \$1521.62

Answer: C

- 93) A principal of \$14,000 is invested in an account paying an annual interest rate of 10%. Find the amount in the account after 15 years if the account is compounded semiannually.

A) \$46,507.19

B) \$57,625.90

C) \$58,481.47

D) \$60,507.19

Answer: D

- 94) A principal of \$480 is invested in an account paying an annual interest rate of 8%. Find the amount in the account after 7 years if the account is compounded quarterly.

A) \$835.69

B) \$355.69

C) \$819.31

D) \$822.64

Answer: A

- 95) A principal of \$12,000 is invested in an account paying an annual interest rate of 5%. Find the amount in the account after 4 years if the account is compounded quarterly.

A) \$14,638.67

B) \$2638.67

C) \$14,457.95

D) \$14,586.08

Answer: A

Solve.

96) Use the formula $F = \frac{9}{5}C + 32$ to write -50°C as degrees Fahrenheit.

A) -45.8°F

B) -58°F

C) -10.2°F

D) -122°F

Answer: B

97) Use the formula $C = \frac{5}{9}(F - 32)$ to write 221°F as degrees Celsius.

A) 140.6°C

B) 429.8°C

C) 105°C

D) 90.8°C

Answer: C

98) It took Sara's mother 9 hours round trip to drive to the University and bring Sara back home for spring break. If the University is $247\frac{1}{2}$ miles from home, find her mother's average speed.

A) $27\frac{1}{2}$ mph

B) 56 mph

C) 55 mph

D) $55\frac{1}{2}$ mph

Answer: C

99) You are varnishing the background for a rectangular mural. The base of the mural is $7\frac{1}{2}$ meters and the height of the mural is 3 meters. How many cans of varnish will you need if each can covers 10 square meters?

A) 23 cans of varnish

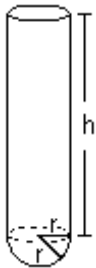
B) 5 cans of varnish

C) 3 cans of varnish

D) 9 cans of varnish

Answer: C

100) A manufacturing company was asked to make a special test tube with dimensions $r = 1.2$ cm and $h = 8.3$ cm as shown on the figure. If the body of the test tube is a cylinder and the bottom is a hemisphere, find the volume of the test tube. Round to two decimal places when necessary, using 3.14 for π .



A) 51.43 cu cm

B) 44.76 cu cm

C) 39.34 cu cm

D) 41.15 cu cm

Answer: D

101) A woman drives at a constant 65 miles per hour. Find the distance the woman will travel in 3 hours.

A) 68 mi

B) 9 mi

C) 195 mi

D) $\frac{65}{3}$ mi

Answer: C

102) An office building rents an office space for \$810. The space is a rectangle that measures 10 ft x 27 ft. Find what the tenant is paying in rent per square foot.

A) \$3 per sq ft

B) \$81 per sq ft

C) \$540 per sq ft

D) \$270 per sq ft

Answer: A

103) You have taken up gardening for relaxation and have decided to fence in your new rectangular shaped masterpiece. The length of the garden is 6 m and 58 m of fencing is required to completely enclose it. What is the width of the garden?

- A) 9.67 m B) 348 m C) 23 m D) 46 m

Answer: C

104) Sally is making a cover for a round table. When finished, the cover will fit exactly with no excess hanging off. Sally has to cut the fabric circle with a 4 inch larger diameter than the table to allow for hemming. If the table has a diameter of 58 inches, how much fabric does Sally need? (Use 3.14 for π . Round to 2 decimal places.)

- A) 11,304.00 sq in. B) 3017.54 sq in. C) 3419.46 sq in. D) 12,070.16 sq in.

Answer: B

105) The width of a room is 9 feet, and the area of the room is 135 square feet. Find the room's length.

- A) 126 ft B) $58\frac{1}{2}$ ft C) 15 ft D) 1215 ft

Answer: C

106) Michael is shipping his mother's birthday gift to her in a rectangular box. If the gift's dimensions are 2 inches long by 5 inches wide by 10 inches high, find the volume of the smallest box that will hold the gift.

- A) 14 cu in. B) 17 cu in. C) 100 cu in. D) 200 cu in.

Answer: C

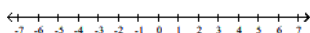
107) You have a cylindrical cooking pot whose radius is 6 inches and whose height is 7 inches. How many full cans of soup will fit into the pot if each can holds 10 cubic inches of soup? (Use 3.14 as an approximation for π .)

- A) 79 cans of soup B) 80 cans of soup C) 26 cans of soup D) 25 cans of soup

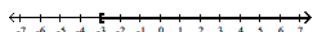
Answer: A

Graph the solution set of the inequality and write it in interval notation.

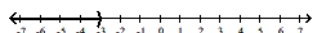
108) $\{x | x > -3\}$



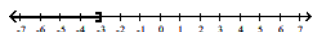
A) $[-3, \infty)$



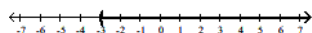
B) $(-\infty, -3)$



C) $(-\infty, -3]$

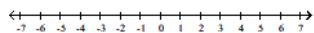


D) $(-3, \infty)$

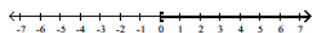


Answer: D

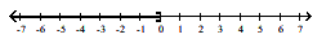
109) $\{x | x < 0\}$



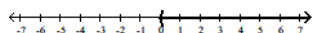
A) $[0, \infty)$



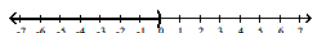
B) $(-\infty, 0]$



C) $(0, \infty)$

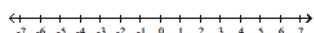


D) $(-\infty, 0)$

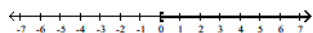


Answer: D

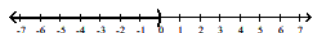
110) $\{x | x \geq 0\}$



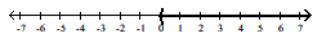
A) $[0, \infty)$



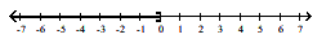
B) $(-\infty, 0)$



C) $(0, \infty)$

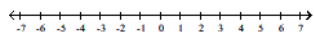


D) $(-\infty, 0]$

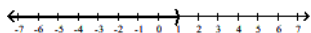


Answer: A

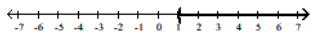
111) $\{x | x \leq 1\}$



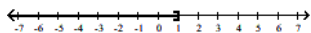
A) $(-\infty, 1)$



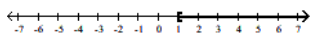
B) $(1, \infty)$



C) $(-\infty, 1]$

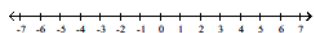


D) $[1, \infty)$

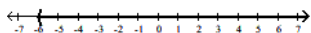


Answer: C

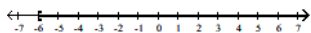
112) $\{x | -6 < x\}$



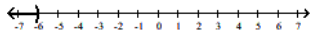
A) $(-6, \infty)$



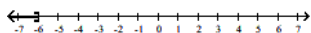
B) $[-6, \infty)$



C) $(-\infty, -6)$

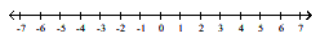


D) $(-\infty, -6]$

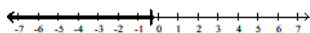


Answer: A

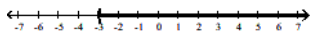
113) $\{x | x > -0.3\}$



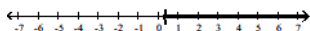
A) $(-\infty, -0.3)$



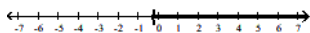
B) $(-0.3, \infty)$



C) $(-0.3, \infty)$

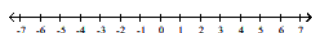


D) $(-0.3, \infty)$

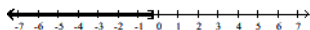


Answer: D

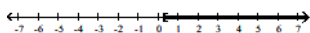
114) $\{x | x \leq 0.3\}$



A) $(-\infty, 0.3]$



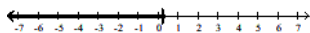
B) $[0.3, \infty)$



C) $(-\infty, 0.3]$

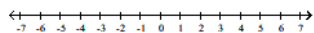


D) $(-\infty, 0.3)$

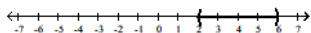


Answer: C

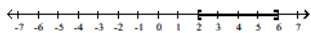
115) $\{x | 2 \leq x \leq 6\}$



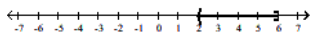
A) $(2, 6)$



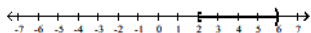
B) $[2, 6]$



C) $(2, 6]$

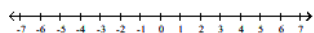


D) $[2, 6)$

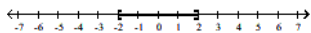


Answer: B

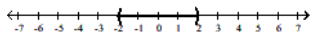
116) $\{x | -2 < x < 2\}$



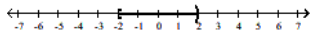
A) $[-2, 2]$



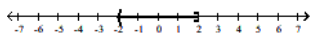
B) $(-2, 2)$



C) $[-2, 2)$

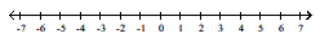


D) $(-2, 2]$

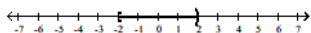


Answer: B

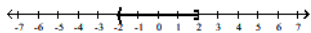
117) $\{x \mid -2 \leq x < 2\}$



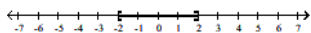
A) $[-2, 2)$



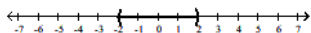
B) $(-2, 2]$



C) $[-2, 2]$

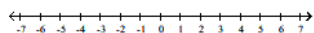


D) $(-2, 2)$

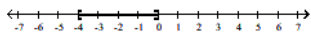


Answer: A

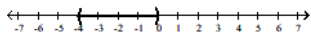
118) $\{x \mid 0 \geq x \geq -4\}$



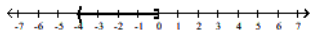
A) $[-4, 0]$



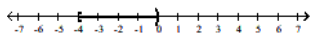
B) $(-4, 0)$



C) $(-4, 0]$



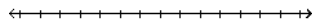
D) $[-4, 0)$



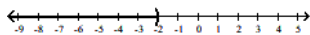
Answer: A

Solve the inequality. Write the solution set in interval notation and graph the solution set.

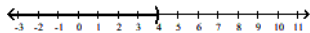
119) $x + 3 < 1$



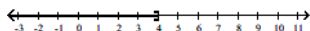
A) $(-\infty, -2)$



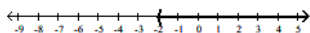
B) $(-\infty, 4)$



C) $(-\infty, 4]$

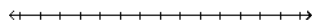


D) $(-2, \infty)$

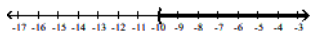


Answer: A

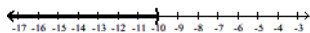
120) $7x > 6x - 10$



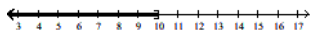
A) $(-10, \infty)$



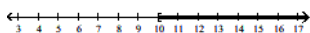
B) $(-\infty, -10)$



C) $(-\infty, 10]$

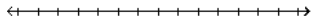


D) $[10, \infty)$

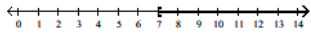


Answer: A

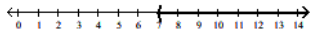
121) $4x + 1 > 3x + 8$



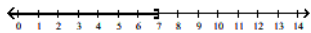
A) $[7, \infty)$



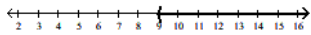
B) $(7, \infty)$



C) $(-\infty, 7]$

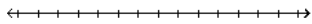


D) $(9, \infty)$

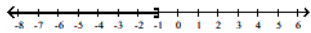


Answer: B

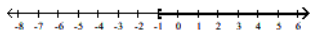
122) $3x - 7 \geq 2x - 8$



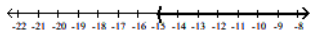
A) $(-\infty, -1]$



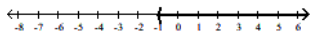
B) $[-1, \infty)$



C) $(-15, \infty)$

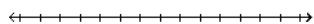


D) $(-1, \infty)$

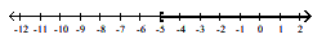


Answer: B

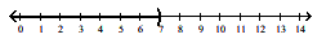
123) $x + 6 < 1$



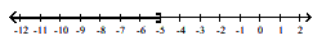
A) $[-5, \infty)$



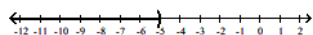
B) $(-\infty, 7)$



C) $(-\infty, -5]$

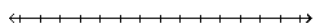


D) $(-\infty, -5)$

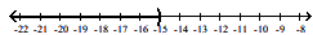


Answer: D

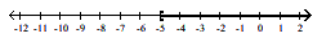
124) $x - 5 \leq -10$



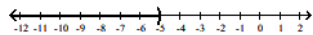
A) $(-\infty, -15)$



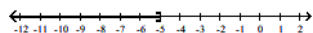
B) $[-5, \infty)$



C) $(-\infty, -5)$

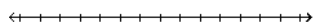


D) $(-\infty, -5]$

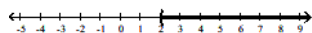


Answer: D

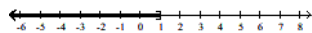
125) $3x + 1 \geq 2x + 1$



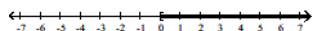
A) $(2, \infty)$



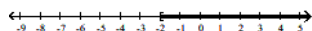
B) $(-\infty, 1]$



C) $[0, \infty)$

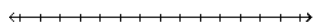


D) $[-2, \infty)$

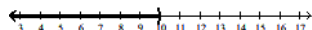


Answer: C

126) $6x + 7 < 6(x + 10)$



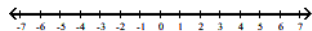
A) $(-\infty, 10)$



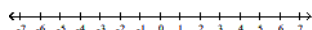
B) $(3, \infty)$



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

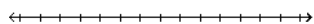


D) $\emptyset$

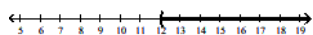


Answer: C

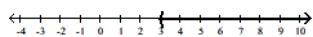
127) $4x + 9 > 4(x + 12)$



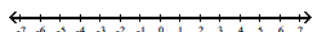
A) $(12, \infty)$



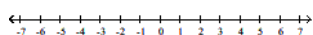
B) $(3, \infty)$



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



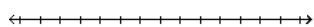
D) $\emptyset$



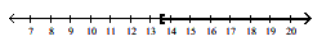
Answer: D

Graph the solution set of the inequality and write it in interval notation.

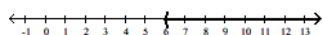
128) $\frac{2}{3}x \geq 9$



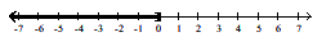
A) $[\frac{27}{2}, \infty)$



B) $(6, \infty)$



C) $(-\infty, \frac{2}{27}]$

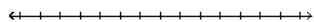


D) $(-\infty, \frac{1}{6})$

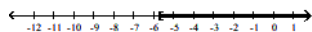


Answer: A

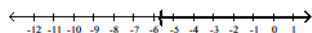
129) $4x < -22.8$



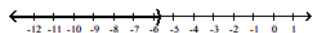
A) $[-5.7, \infty)$



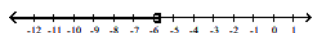
B) $(-5.7, \infty)$



C) $(-\infty, -5.7)$

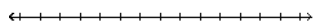


D) $(-\infty, -5.7]$

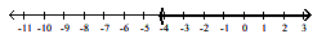


Answer: C

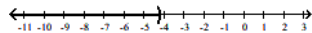
130) $9x > -37.8$



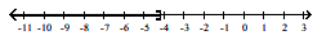
A) $(-4.2, \infty)$



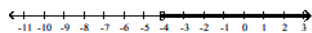
B) $(-\infty, -4.2)$



C) $(-\infty, -4.2]$

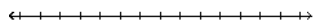


D) $[-4.2, \infty)$

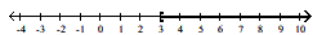


Answer: A

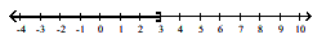
131) $-6x \geq 18$



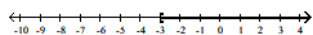
A) $[3, \infty)$



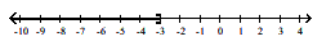
B) $(-\infty, 3]$



C) $[-3, \infty)$

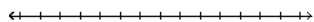


D) $(-\infty, -3]$

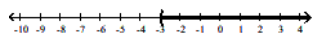


Answer: D

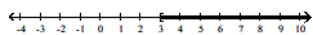
132) $5x \geq 15$



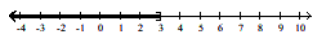
A) $(-3, \infty)$



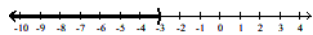
B) $[3, \infty)$



C) $(-\infty, 3]$

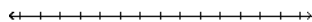


D) $(-\infty, -3)$

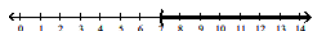


Answer: B

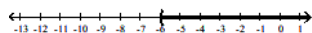
133) $-x < -6$



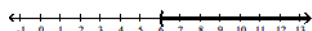
A) $[7, \infty)$



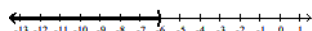
B) $(-6, \infty)$



C) $(6, \infty)$



D) $(-\infty, -6)$



Answer: C

Write the solution set using interval notation.

134) $20 - 5x \leq -5$

A) $(-\infty, 5)$

B) $[5, \infty)$

C) $[-5, \infty)$

D) $(-\infty, -5)$

Answer: B

135) $11x + 27 \geq 2x - 27$

A) $(-\infty, 6]$

B) $[-6, \infty)$

C) $(-\infty, -6)$

D) $(6, \infty)$

Answer: B

136) $4(x + 4) \leq 5(x - 6)$

A) $(-14, \infty)$

B) $(-\infty, 46)$

C) $(-\infty, -14]$

D) $[46, \infty)$

Answer: D

137) $\frac{2}{3} + \frac{6}{7} \leq \frac{x}{21}$

A) $(-\infty, 32]$

B) $[32, \infty)$

C) $(-\infty, 32)$

D) $(32, \infty)$

Answer: B

138) $8(y - 7) \leq 8y + 100$

A) $[-56, \infty)$

B) $[0, \infty)$

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

D) $\emptyset$

Answer: C

139) $2(5x + 1) - 2 < 5(2x - 5) + 7$

A) $(-\infty, -\frac{9}{5})$

B) $(-\infty, -9)$

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

D) $\emptyset$

Answer: D

140) $12(10 - x) \geq 120$

A) $(-\infty, 0]$

B) $[0, \infty)$

C) $[-240, \infty)$

D) $(-\infty, 240]$

Answer: A

141) $5(15x + 1) > 5$

A) $[\frac{1}{75}, \infty)$

B) $[0, \infty)$

C) $(\frac{1}{75}, \infty)$

D) $(0, \infty)$

Answer: D

142) $\frac{4x - 2}{2} < 19$

A) $(-\infty, 10]$

B) $(-\infty, 10)$

C) $[10, \infty)$

D) $(10, \infty)$

Answer: B

143) $\frac{-3x + 10}{2} < -1$

A) $(4, \infty)$

B) $(-\infty, 4)$

C) $(-\infty, 4]$

D) $[4, \infty)$

Answer: A

144) $\frac{5x - 65}{18} < 0$

A) $(-\infty, 13)$

B) $(-\infty, 0)$

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

D) $\emptyset$

Answer: A

145) $8x - 4.2 < 4x - 11$

A) $[-1.7, \infty)$

B) $(-1.7, \infty)$

C) $(-\infty, -1.7)$

D) $(-\infty, -1.7]$

Answer: C

146) $4x - 3.2 < 6x + 5$

A) $(-4.1, \infty)$

B) $[-4.1, \infty)$

C) $(-\infty, -4.1)$

D) $(-\infty, -4.1]$

Answer: A

147) $5(4x - 1) > 20$

A) $[\frac{21}{20}, \infty)$

B) $(\frac{5}{4}, \infty)$

C) $(\frac{3}{4}, \infty)$

D) $[\frac{19}{20}, \infty)$

Answer: B

148) $-7(y - 9) \leq -9y + 63$

A) $(-\infty, 63)$

B) $(0, \infty)$

C) $[126, \infty)$

D) $(-\infty, 0]$

Answer: D

149) $\frac{1}{4}(6x - 56) \geq x - 7$

A) $(-\infty, 14]$

B) $(-\infty, 14)$

C) $(14, \infty)$

D) $[14, \infty)$

Answer: D

150) $3(4x - 4) - 12 \leq 5x - 3$

A) $(-\infty, 3)$

B) $(-\infty, 3]$

C) $[-3, \infty)$

D) $(-3, \infty)$

Answer: B

151) $1.3x - 3 - 0.8x \geq 14$

A) $(-\infty, 34)$

B) $[34, \infty)$

C) $(3.4, \infty)$

D) $(-\infty, 34]$

Answer: B

152) $\frac{1}{7}(2x + 12) > \frac{3}{14}(x - 1)$

A) $(-\infty, 15)$

B) $(21, \infty)$

C) $(-\infty, 27)$

D) $(-27, \infty)$

Answer: D

153) $\frac{5x + 1}{15} - \frac{1 + 4x}{5} \leq -\frac{1}{3}$

A) $[\frac{3}{7}, \infty)$

B) $[-\frac{3}{7}, \infty)$

C) $(\frac{3}{7}, \infty)$

D) $(-\infty, \frac{3}{7}]$

Answer: A

Solve.

- 154) A student scored 74, 89, and 95 on three algebra tests. What must he score on the fourth test in order to have an average grade of at least 85?

A) 30

B) 65

C) 82

D) 86

Answer: C

- 155) A certain vehicle has a weight limit for all passengers and cargo of 1040 pounds. The four passengers in the vehicle weigh an average of 150 pounds. Use an inequality to find the maximum weight of the cargo that the vehicle can handle.

A) at most 890 pounds

B) at most $\frac{104}{15}$ pounds

C) at most 440 pounds

D) at most 520 pounds

Answer: C

- 156) A certain store has a fax machine available for use by its customers. The store charges \$1.90 to send the first page and \$0.40 for each subsequent page. Use an inequality to find the maximum number of pages that can be faxed for \$3.90

A) at most 5 pages

B) at most 43 pages

C) at most 10 pages

D) at most 2 pages

Answer: A

- 157) An archer has \$88 to spend on a new archery set. A certain set containing a bow and three arrows costs \$40. With the purchase of this set, he can purchase additional arrows for \$8 per arrow. Use an inequality to find the maximum number of arrows he could obtain, including those with the set, for his \$88.

A) at most 11 arrows

B) at most 9 arrows

C) at most $\frac{11}{5}$ arrows

D) at most 6 arrows

Answer: B

- 158) When making a long distance call from a certain pay phone, the first three minutes of a call cost \$2.10. After that, each additional minute or portion of a minute of that call costs \$0.20. Use an inequality to find the maximum number of minutes one can call long distance for \$2.50.

A) at most 1 minutes

B) at most 5 minutes

C) at most 13 minutes

D) at most 2 minutes

Answer: B

159) It takes 28 minutes to set up a candy making machine. Once the machine is set up, it produces 20 candies per minute. Use an inequality to find the number of candies that can be produced in 6 hours if the machine has not yet been set up.

- A) at most 9520 candies
C) at most 6640 candies

- B) at most 3360 candies
D) at most 120 candies

Answer: C

160) A standard train ticket in a certain city costs \$3.00 per ride. People who use the train also have the option of purchasing a frequent rider pass for \$18.00 each month. With the pass, a ticket costs only \$2.25 per ride. Use an inequality to determine the number of train rides in a month for which purchasing the monthly pass is more economical than purchasing the standard train ticket.

- A) 23 or more times B) 25 or more times C) 26 or more times D) 24 or more times

Answer: B

List the elements of the set.

161) If $A = \{x | x \text{ is an even integer}\}$ and $B = \{47, 49, 51, 53\}$, list the elements of $A \cap B$.

- A) $\{x | x \text{ is an even integer}\}$
B) $\emptyset$
C) $\{x | x \text{ is an even integer or } x = 47 \text{ or } x = 49 \text{ or } x = 51 \text{ or } x = 53\}$
D) $\{47, 49, 51, 53\}$

Answer: B

162) If $A = \{x | x \text{ is an odd integer}\}$ and $B = \{21, 23, 24, 26\}$, list the elements of $A \cap B$.

- A) $\{x | x \text{ is an odd integer}\}$ B) $\emptyset$
C) $\{x | x \text{ is an odd integer or } x = 24 \text{ or } x = 26\}$ D) $\{21, 23\}$

Answer: D

163) If $A = \{7, 8, 9, 12\}$ and $B = \{5, 7, 8, 10\}$, list the elements of $A \cap B$.

- A) $\{5, 7, 8, 9, 10, 12\}$ B) $\{7, 8\}$ C) $\{5, 9, 10, 12\}$ D) $\emptyset$

Answer: B

164) If $A = \{x | x \text{ is an even integer}\}$ and $B = \{x | x \text{ is an odd integer}\}$, list the elements of $A \cap B$.

- A) $\{x | x \text{ is an integer}\}$ B) $\{x | x \text{ is an odd integer}\}$
C) $\{x | x \text{ is an even integer}\}$ D) $\emptyset$

Answer: D

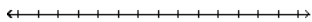
165) If $A = \{-5, -3, -2, -1, 2\}$ and $B = \{-5, -3, -2, -1\}$, list the elements of $A \cap B$.

- A) $\emptyset$ B) $\{-5, -3, -2, -1\}$ C) $\{2\}$ D) $\{-5, -3, -2, -1, 2\}$

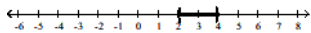
Answer: B

Solve the compound inequality. Graph the solution set and give the solution in interval notation.

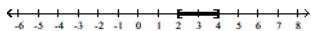
166) $x \leq 4$ and $x \geq 2$



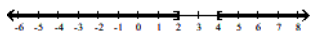
A) $(2, 4)$



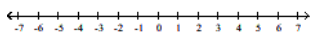
B) $[2, 4]$



C) $(-\infty, 2] \cup [4, \infty)$

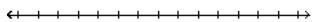


D) $\emptyset$

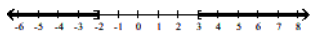


Answer: B

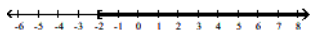
167) $x \leq 3$ and $x \leq -2$



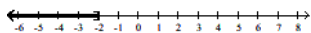
A) $(-\infty, -2] \cup [3, \infty)$



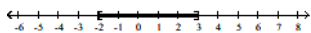
B) $[-2, \infty)$



C) $(-\infty, -2]$

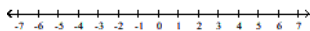


D) $[-2, 3]$

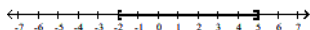


Answer: C

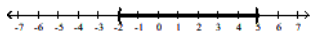
168) $x \leq -2$ and $x \geq 5$



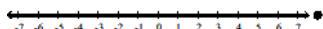
A) $[-2, 5]$



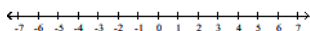
B) $(-2, 5)$



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



D) $\emptyset$



Answer: D

Solve the compound inequality. Give the answer in interval notation.

169) $5x < 25$ and $x + 5 > 8$

A) $(-\infty, 3) \cup (5, \infty)$

B) $(3, 5)$

C) $[3, 5]$

D) $\emptyset$

Answer: B

170) $-8x > -24$ and $x + 8 > 7$

A) $(3, \infty)$

B) $(-\infty, -1) \cup (3, \infty)$

C) $(-1, 3)$

D) $\emptyset$

Answer: C

171) $x + 9 < 7$ and $-9x < -45$

A) $(-\infty, -2) \cup (5, \infty)$

B) $(-2, 5)$

C) $(-\infty, -2)$

D) $\emptyset$

Answer: D

172) $-8x < -40$ and $x + 8 > 6$

A) $(-\infty, -2) \cup (5, \infty)$

B) $(-2, 5)$

C) $(5, \infty)$

D) $\emptyset$

Answer: C

173) $15 < 5x \leq 30$

A) $[-6, -3]$

B) $[3, 6]$

C) $(-6, -3]$

D) $(3, 6]$

Answer: D

174) $11 \leq 3x + 5 \leq 20$

A) $[-5, -2]$

B) $(2, 5)$

C) $(-5, -2)$

D) $[2, 5]$

Answer: D

175) $-10 \leq -2x + 2 < -4$

A) $[3, 6)$

B) $(3, 6]$

C) $(-6, -3]$

D) $[-6, -3)$

Answer: B

176) $-21 \leq -5x + 4 \leq -6$

A) (2, 5)

B) [-5, -2]

C) (-5, -2)

D) [2, 5]

Answer: D

177) $-3 \leq \frac{5}{3}x - 8 < 12$

A) (3, 4]

B) [3, 12)

C) (3, 12]

D) [3, 4)

Answer: B

178) $0 \leq \frac{2x + 3}{4} < 3$

A) $[-\frac{3}{2}, \frac{9}{2})$

B) $[-\frac{3}{2}, \frac{9}{2}]$

C) $(-\frac{3}{2}, \frac{9}{2}]$

D) $(-\frac{3}{2}, \frac{9}{2})$

Answer: A

179) $-\frac{1}{3} \leq \frac{3x - 1}{6} < \frac{1}{3}$

A) $(-\frac{1}{3}, 1]$

B) $(-\frac{1}{3}, 1)$

C) $[-\frac{1}{3}, 1)$

D) $[-\frac{5}{9}, \frac{7}{9})$

Answer: C

180) $0.4 < 0.2x - 0.9 < 1.2$

A) (-2.5, 1.5)

B) [6.5, 10.5]

C) (0, 10.5)

D) (6.5, 10.5)

Answer: D

181) $4x + 2 < 5x + 4 < 6x - 3$

A) (7, ∞)

B) (-2, ∞)

C) (-2, 7)

D) ($-\infty$, 7)

Answer: A

Solve.

182) The formula for converting Fahrenheit temperatures to Celsius temperatures is $C = \frac{5}{9}(F - 32)$. Use this formula

to solve the problem. In a certain city, the average temperature ranges from -25° to 38° Celsius. Use a compound inequality to convert these temperatures to Fahrenheit temperatures. If necessary, round to the nearest tenth of a degree.

A) $-77^\circ \leq F \leq 36.4^\circ$

B) $-45^\circ \leq F \leq 68.4^\circ$

C) $-13^\circ \leq F \leq 100.4^\circ$

D) $18.1^\circ \leq F \leq 53.1^\circ$

Answer: C

183) Cindy has scores of 74, 80, 84, and 89 on her biology tests. Use a compound inequality to find the range of scores she can make on her final exam to receive a C in the course. The final exam counts as two tests, and a C is received if the final course average is from 70 to 79.

A) $70 \leq \text{final score} \leq 79$

B) $93 \leq \text{final score} \leq 147$

C) $11.5 \leq \text{final score} \leq 34$

D) $46.5 \leq \text{final score} \leq 73.5$

Answer: D

List the elements of the set.

184) If $A = \{x | x \text{ is an even integer}\}$ and $B = \{-11, -9, -7, -5\}$, list the elements of $A \cup B$.

- A) $\{x | x \text{ is an even integer}\}$
- B) $\emptyset$
- C) $\{-11, -9, -7, -5\}$
- D) $\{x | x \text{ is an even integer or } x = -11 \text{ or } x = -9 \text{ or } x = -7 \text{ or } x = -5\}$

Answer: D

185) If $A = \{x | x \text{ is an odd integer}\}$ and $B = \{17, 19, 20, 22\}$, list the elements of $A \cup B$.

- A) $\{x | x \text{ is an odd integer}\}$
- B) $\{17, 19\}$
- C) $\{x | x \text{ is an odd integer or } x = 20 \text{ or } x = 22\}$
- D) $\emptyset$

Answer: C

186) If $A = \{47, 48, 49, 52\}$ and $B = \{45, 47, 48, 50\}$, list the elements of $A \cup B$.

- A) $\emptyset$
- B) $\{45, 49, 50, 52\}$
- C) $\{47, 48\}$
- D) $\{45, 47, 48, 49, 50, 52\}$

Answer: D

187) If $A = \{x | x \text{ is an even integer}\}$ and $B = \{x | x \text{ is an odd integer}\}$, list the elements of $A \cup B$.

- A) $\{x | x \text{ is an integer}\}$
- B) $\{x | x \text{ is an odd integer}\}$
- C) $\emptyset$
- D) $\{x | x \text{ is an even integer}\}$

Answer: A

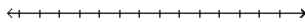
188) If $A = \{21, 23, 24, 25, 28\}$ and $B = \{21, 23, 24, 25\}$, list the elements of $A \cup B$.

- A) $\{28\}$
- B) $\{21, 23, 24, 25\}$
- C) $\emptyset$
- D) $\{21, 23, 24, 25, 28\}$

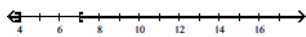
Answer: D

Solve the compound inequality. Graph the solution set and give the solution in interval notation.

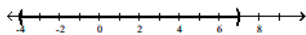
189) $x \leq 4$ or $x \geq 7$



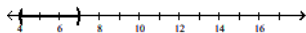
A) $(-\infty, 4] \cup [7, \infty)$



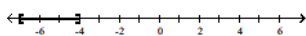
B) $(-4, 7)$



C) $(4, 7)$

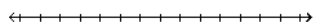


D) $[-7, -4]$

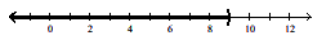


Answer: A

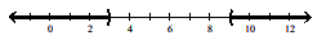
190) $x < 3$ or $x < 9$



A) $(-\infty, 9)$



B) $(-\infty, 3) \cup (9, \infty)$



C) $(3, 9)$

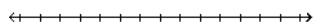


D) $(3, \infty)$

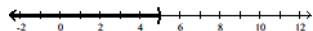


Answer: A

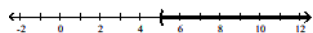
191) $x > 5$ or $x < 5$



A) $(-\infty, 5)$



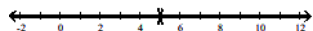
B) $(5, \infty)$



C) $(5, 5)$

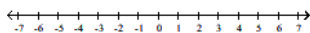


D) $(-\infty, 5) \cup (5, \infty)$

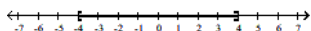


Answer: D

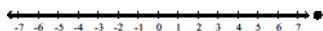
192) $x \leq 4$ or $x \geq -4$



A) $[-4, 4]$

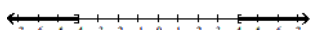


B) $(-\infty, \infty)$

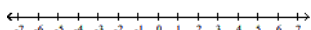


C)

$(-\infty, -4] \cup [4, \infty)$



D) $\emptyset$



Answer: B

Solve the compound inequality. Give the answer in interval notation.

193) $x + 6 < 4$ or $-6x < -6$

A) $(-\infty, 1)$

B) $(-2, 1)$

C) $(-\infty, -2) \cup (1, \infty)$

D) $(-\infty, \infty)$

Answer: C

194) $-9x > -27$ or $x + 9 > 11$

A) $(2, \infty)$

B) $(-\infty, 2) \cup (3, \infty)$

C) $(2, 3)$

D) $(-\infty, \infty)$

Answer: D

195) $9x - 6 < 3x$ or $-3x \leq -9$

A) $[1, 3]$

B) $(-\infty, 1) \cup [3, \infty)$

C) $(1, 3)$

D) $\emptyset$

Answer: B

196) $-6x + 1 \geq 13$ or $4x + 3 \geq -13$

A) $(-\infty, -4) \cup (-2, \infty)$

B) $[-2, \infty)$

C) $(-\infty, -4] \cup [-2, \infty)$

D) $(-\infty, \infty)$

Answer: D

197) $4x - 2 > 2$ or $-x + 4 \geq -9$

A) $(-\infty, 1] \cup (13, \infty)$

B) $(1, \infty)$

C) $(-\infty, 1) \cup [13, \infty)$

D) $(-\infty, \infty)$

Answer: D

198) $\frac{4}{5}x + 1 \leq 0$ or $-3x < -12$

A) $(-\infty, 4)$

B) $(-\infty, \frac{5}{4}] \cup (4, \infty)$

C) $(-\infty, \frac{4}{5}] \cup (-9, \infty)$

D) $[\frac{5}{4}, 4)$

Answer: B

Solve.

199) $|x| = 6$

A) $\{-6\}$

B) $\{36\}$

C) $\{6, -6\}$

D) $\{6\}$

Answer: C

200) $|x| = -8$

A) $\{-8\}$

B) $\{8\}$

C) $\{8, -8\}$

D) $\emptyset$

Answer: D

201) $|10x| = 39$

A) $\{3.9\}$

B) $\{0, 3.9, -3.9\}$

C) $\{-3.9\}$

D) $\{3.9, -3.9\}$

Answer: D

202) $|x + 5| = 9$

A) $\{14, 4\}$

B) $\{-4\}$

C) $\{-14, 4\}$

D) $\emptyset$

Answer: C

203) $|x| + 6 = 18$

A) $\{-12, 12\}$

B) $\{24\}$

C) $\{-12\}$

D) $\{12\}$

Answer: A

204) $|4x + 6| = 5$

A) $\left\{\frac{1}{4}, \frac{11}{4}\right\}$

B) $\left\{-\frac{1}{6}, -\frac{11}{6}\right\}$

C) $\left\{-\frac{1}{4}, -\frac{11}{4}\right\}$

D) $\emptyset$

Answer: C

205) $\left|\frac{3x + 12}{4}\right| = 3$

A) $\{-8, 8\}$

B) $\{-8, 0\}$

C) $\{8, 0\}$

D) $\emptyset$

Answer: B

206) $|7x| + 6 = 10$

A) $\left\{\frac{4}{7}, -\frac{4}{7}\right\}$

B) $\{4, -4\}$

C) $\left\{\frac{7}{4}, -\frac{7}{4}\right\}$

D) $\emptyset$

Answer: A

207) $|6x| = 0$

A) $\left\{\frac{1}{6}\right\}$

B) $\{6, -6\}$

C) $\{0\}$

D) $\{6\}$

Answer: C

208) $|5x + 2| + 5 = 8$

A) $\left\{-\frac{1}{5}, 1\right\}$

B) $\left\{\frac{1}{5}, -1\right\}$

C) $\left\{\frac{1}{2}, -\frac{5}{2}\right\}$

D) $\emptyset$

Answer: B

209) $|5x + 9| + 8 = 3$

A) $\left\{\frac{4}{5}, \frac{14}{5}\right\}$

B) $\left\{-\frac{4}{5}, -\frac{14}{5}\right\}$

C) $\left\{-\frac{4}{9}, -\frac{14}{9}\right\}$

D) $\emptyset$

Answer: D

210) $|2x - 3| = 0$

A) $\left\{\frac{3}{2}\right\}$

B) $\left\{-\frac{3}{2}\right\}$

C) $\left\{\frac{3}{2}, -\frac{3}{2}\right\}$

D) $\emptyset$

Answer: A

211) $|4x + 8| = |x - 9|$

A) $\left\{-\frac{17}{3}, \frac{1}{5}\right\}$

B) $\left\{\frac{17}{3}, -\frac{1}{5}\right\}$

C) $\left\{-\frac{17}{3}, 5\right\}$

D) $\emptyset$

Answer: A

212) $|x - 6| = |2 - x|$

A) $\{8\}$

B) $\left\{-\frac{1}{4}\right\}$

C) $\{4\}$

D) $\emptyset$

Answer: C

213) $|-4x - 10| = |-9 + 3x|$

A) $\left\{-\frac{1}{7}\right\}$

B) $\left\{-\frac{1}{7}, -19\right\}$

C) $\left\{-\frac{1}{7}, 19\right\}$

D) $\emptyset$

Answer: B

214) $\left|\frac{4x - 5}{7}\right| = |-3|$

A) $\{4\}$

B) $\left\{\frac{13}{2}, -4\right\}$

C) $\left\{-\frac{13}{2}\right\}$

D) $\emptyset$

Answer: B

215) $\left|\frac{x + 9}{5}\right| = |6x + 8|$

A) $\left\{-\frac{49}{31}, -\frac{31}{29}\right\}$

B) $\left\{1, \frac{49}{29}\right\}$

C) $\left\{-\frac{17}{31}, \frac{1}{29}\right\}$

D) $\emptyset$

Answer: A

216) $\left|\frac{1}{4}x + 1\right| = \left|\frac{1}{2}x - 1\right|$

A) $\{0, \frac{8}{3}\}$

B) $\{0, 8\}$

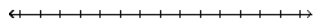
C) $\{0, \frac{1}{2}\}$

D) $\emptyset$

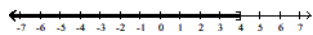
Answer: B

Solve the inequality. Then graph the solution set and write it in interval notation.

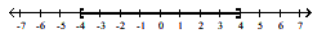
217) $|x| \leq 4$



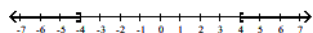
A) $(-\infty, 4]$



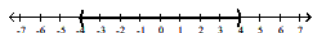
B) $[-4, 4]$



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

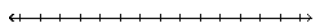


D) $(-4, 4)$

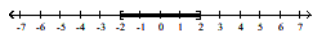


Answer: B

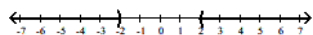
218) $|x| < 2$



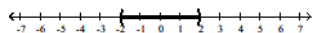
A) $[-2, 2]$



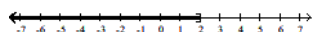
B) $(-\infty, -2) \cup (2, \infty)$



C) $(-2, 2)$

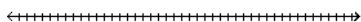


D) $(-\infty, 2]$

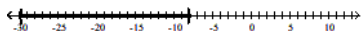


Answer: C

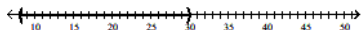
219) $|x - 19| < 11$



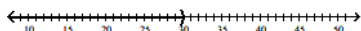
A) $(-30, -8)$



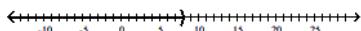
B) $(8, 30)$



C) $(-\infty, 30)$

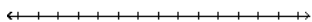


D) $(-\infty, 8)$

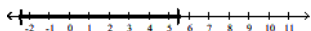


Answer: B

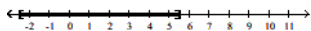
220) $|2k - 3| \leq 8$



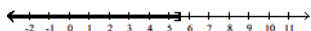
A) $\left(-\frac{5}{2}, \frac{11}{2}\right)$



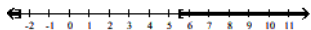
B) $\left[-\frac{5}{2}, \frac{11}{2}\right]$



C) $\left(-\infty, \frac{11}{2}\right]$

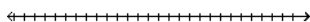


D) $\left(-\infty, -\frac{5}{2}\right] \cup \left[\frac{11}{2}, \infty\right)$

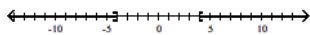


Answer: B

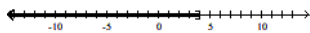
221) $|x| - 2 \leq 2$



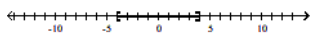
A) $(-\infty, -4] \cup [4, \infty)$



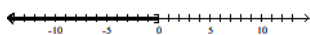
B) $(-\infty, 4]$



C) $[-4, 4]$

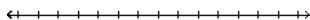


D) $(-\infty, 0]$

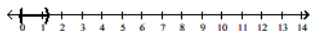


Answer: C

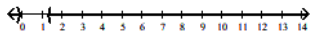
222) $|7k - 4| < -5$



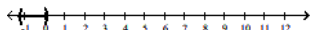
A) $\left(-\frac{1}{7}, \frac{9}{7}\right)$



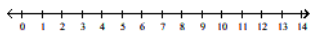
B) $\left(-\infty, -\frac{1}{7}\right) \cup \left(\frac{9}{7}, \infty\right)$



C) $\left(-\frac{9}{7}, \frac{1}{7}\right)$

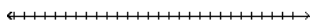


D) $\emptyset$

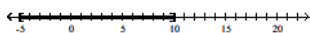


Answer: D

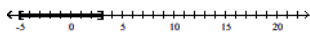
223) $|x + 1| + 6 \leq 10$



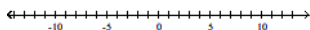
A) $[-5, 10]$



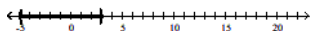
B) $[-5, 3]$



C) $\emptyset$

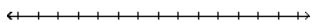


D) $(-5, 3)$

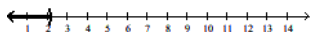


Answer: B

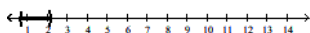
224) $|5k - 7| - 3 < 1$



A) $\left(-\infty, \frac{11}{5}\right)$



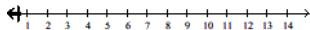
B) $\left(\frac{3}{5}, \frac{11}{5}\right)$



C) $\left(-\infty, \frac{3}{5}\right) \cup \left(\frac{11}{5}, \infty\right)$

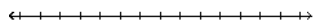


D) $\left(-\infty, \frac{3}{5}\right)$

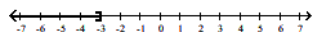


Answer: B

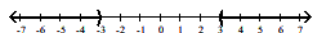
225) $|x| < -3$



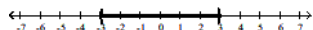
A) $(-\infty, -3]$



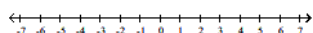
B) $(-\infty, -3) \cup (3, \infty)$



C) $(-3, 3)$

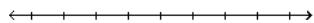


D) $\emptyset$



Answer: D

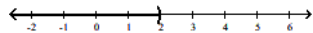
226) $|x - 2| \leq 0$



A) -2



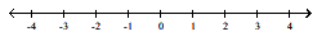
B) $(-\infty, 2)$



C) 2

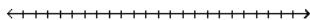


D) $\emptyset$

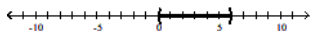


Answer: C

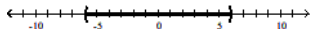
$$227) \left| \frac{11y + 33}{3} \right| < 11$$



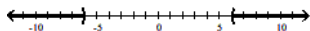
A) $(0, 6)$



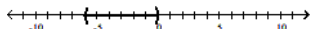
B) $(-6, 6)$



C) $(-\infty, -6) \cup (0, \infty)$



D) $(-6, 0)$



Answer: D

Write the inequality.

228) Write an absolute value inequality representing all numbers x whose distance from 0 is less than 14 units.

A) $|x| \leq 14$

B) $|x| > 14$

C) $|x| \leq 13$

D) $|x| < 14$

Answer: D

229) Write $-10 \leq x \leq 10$ as an inequality containing absolute value.

A) $|x| \leq 10$

B) $|x| \leq 9$

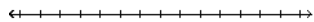
C) $|x| \geq 10$

D) $|x| \geq 9$

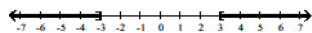
Answer: A

Solve the inequality. Then graph the solution set and write it in interval notation.

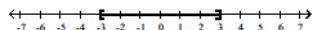
230) $|x| \geq 3$



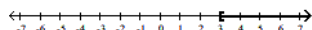
A) $(-\infty, -3] \cup [3, \infty)$



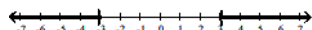
B) $[-3, 3]$



C) $[3, \infty)$

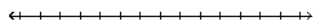


D) $(-\infty, -3) \cup (3, \infty)$



Answer: A

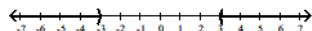
231) $|x| > 3$



A) $(-3, 3)$



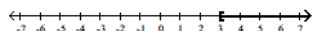
B) $(-\infty, -3) \cup (3, \infty)$



C) $[-3, 3]$

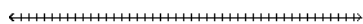


D) $[3, \infty)$

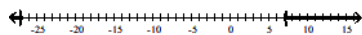


Answer: B

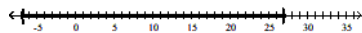
232) $|x + 10| > 17$



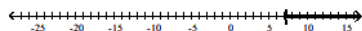
A) $(-\infty, -27) \cup (7, \infty)$



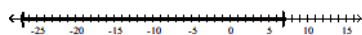
B) $(-7, 27)$



C) $(7, \infty)$

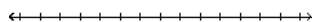


D) $(-27, 7)$

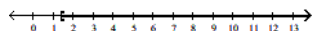


Answer: A

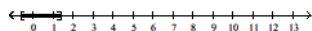
233) $|5k - 2| \geq 5$



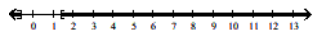
A) $\left[\frac{7}{5}, \infty\right)$



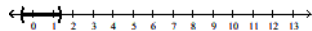
B) $\left[-\frac{3}{5}, \frac{7}{5}\right]$



C) $\left(-\infty, -\frac{3}{5}\right] \cup \left[\frac{7}{5}, \infty\right)$

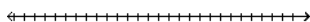


D) $\left(-\frac{3}{5}, \frac{7}{5}\right)$

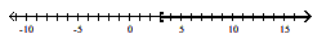


Answer: C

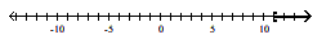
234) $|x| - 4 \geq 7$



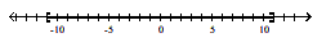
A) $[3, \infty)$



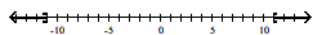
B) $[11, \infty)$



C) $[-11, 11]$

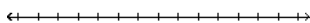


D) $(-\infty, -11] \cup [11, \infty)$

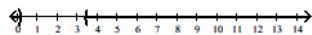


Answer: D

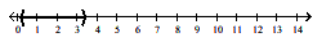
235) $|5k - 9| > -8$



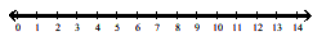
A) $\left(-\infty, \frac{1}{5}\right) \cup \left(\frac{17}{5}, \infty\right)$



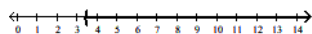
B) $\left(\frac{1}{5}, \frac{17}{5}\right)$



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

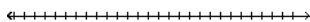


D) $\left(\frac{17}{5}, \infty\right)$

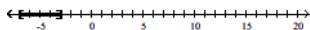


Answer: C

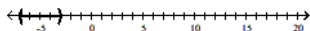
236) $|x + 5| + 3 \geq 5$



A) $[-7, -3]$



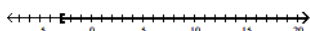
B) $(-7, -3)$



C) $(-\infty, -7] \cup [-3, \infty)$

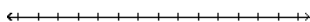


D) $[-3, \infty)$

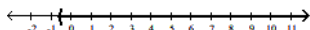


Answer: C

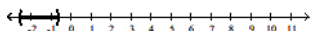
237) $|5k + 8| - 3 > 2$



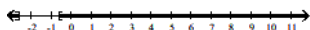
A) $\left(-\frac{3}{5}, \infty\right)$



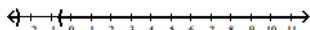
B) $\left(-\frac{13}{5}, -\frac{3}{5}\right)$



C) $\left(-\infty, -\frac{13}{5}\right] \cup \left[-\frac{3}{5}, \infty\right)$

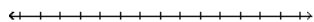


D) $\left(-\infty, -\frac{13}{5}\right) \cup \left(-\frac{3}{5}, \infty\right)$

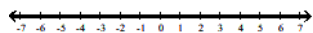


Answer: D

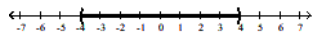
238) $|x| > -4$



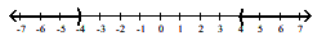
A) $(-\infty, \infty)$



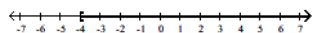
B) $(-4, 4)$



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

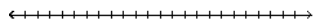


D) $[-4, \infty)$

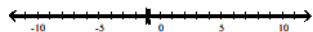


Answer: A

239) $|x - 1| \geq 0$



A) $(-\infty, -1) \cup (-1, \infty)$



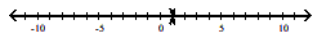
B) $(-\infty, \infty)$



C) 1

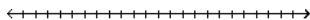


D) $(-\infty, 1) \cup (1, \infty)$

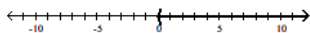


Answer: B

$$240) \left| \frac{8y + 24}{3} \right| > 8$$



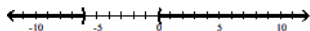
A) $(0, \infty)$



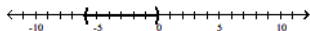
B) $(-6, 6)$



C) $(-\infty, -6) \cup (0, \infty)$

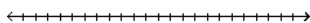


D) $(-6, 0)$

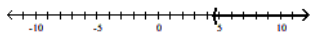


Answer: C

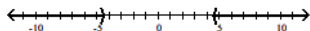
$$241) |2x - 9| > 0$$



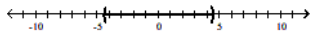
A) $\left(\frac{9}{2}, \infty\right)$



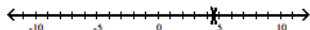
B) $\left(-\infty, -\frac{9}{2}\right) \cup \left(\frac{9}{2}, \infty\right)$



C) $\left(-\frac{9}{2}, \frac{9}{2}\right)$



D) $\left(-\infty, \frac{9}{2}\right) \cup \left(\frac{9}{2}, \infty\right)$



Answer: D

Write the inequality.

242) Write an absolute value inequality representing all numbers x whose distance from 0 is greater than 8 units.

A) $|x| > 8$

B) $|x| \geq 8$

C) $|x| < 8$

D) $|x| \geq 9$

Answer: A

243) Write $x > 11$ or $x < -11$ as an inequality containing absolute value.

A) $|x| < 11$

B) $|x| > 12$

C) $|x| > 11$

D) $|x| \geq 12$

Answer: C

Fill in the blank with one of the words or phrases listed below.

contradiction	linear inequality in one variable	compound inequality	solution
absolute value	consecutive integers	identity	union
formula	linear equation in one variable	intersection	

244) The statement " $x < 5$ or $x > 7$ " is called a(n) _____.

A) linear equation in one variable

B) linear inequality in one variable

C) compound inequality

D) formula

Answer: C

245) An equation in one variable that has no solution is called a(n) _____.

A) identity

B) formula

C) linear inequality in one variable

D) contradiction

Answer: D

246) The _____ of two sets is the set of all elements common to both sets.

A) solution

B) absolute value

C) union

D) intersection

Answer: D

247) The _____ of two sets is the set of all elements that belong to either of the sets.

A) absolute value

B) intersection

C) solution

D) union

Answer: D

248) An equation in one variable that has every number (for which the equation is defined) as a solution is called a(n) _____.

A) solution

B) contradiction

C) identity

D) compound inequality

Answer: C

249) The equation $d = rt$ is also called a(n) _____.

A) formula

B) identity

C) linear inequality in one variable

D) linear equation in one variable

Answer: A

250) A number's distance from 0 is called its _____.

A) union

B) absolute value

C) intersection

D) solution

Answer: B

251) When a variable in an equation is replaced by a number and the resulting equation is true, then that number is called a(n) _____ of the equation.

- A) solution B) contradiction C) union D) identity

Answer: A

252) The integers 17, 18, 19 are examples of _____.

- A) identity B) consecutive integers
C) absolute value D) contradiction

Answer: B

253) The statement $5x - 0.2 < 7$ is an example of a(n) _____.

- A) formula B) linear inequality in one variable
C) linear equation in one variable D) compound inequality

Answer: B

254) The statement $5x - 0.2 = 7$ is an example of a(n) _____.

- A) formula B) linear inequality in one variable
C) linear equation in one variable D) compound inequality

Answer: C

Solve the equation.

255) $14x + 18 = 5x - 18$

- A) {4} B) {2} C) {-2} D) {-4}

Answer: D

256) $11(x + 3) = 6[10 - 2(3 - x) + 10]$

- A) {3} B) {-51} C) {-6} D) {51}

Answer: B

257) $3(y + 6) + y = 2(2 + 2y)$

- A) $\emptyset$ B) $\left\{-\frac{7}{4}\right\}$
C) $\{y | y \text{ is a real number}\}$ D) $\left\{\frac{7}{4}\right\}$

Answer: A

258) $3n + 2 + n = 2(2n + 1)$

- A) $\emptyset$ B) $\left\{\frac{1}{2}\right\}$
C) $\left\{-\frac{1}{2}\right\}$ D) $\{n | n \text{ is a real number}\}$

Answer: D

259) $\frac{9w}{4} + 1 = \frac{7w}{10} + 3$

- A) {40} B) $\left\{\frac{40}{31}\right\}$ C) $\left\{\frac{1}{13}\right\}$ D) $\left\{-\frac{40}{31}\right\}$

Answer: B

$$260) \frac{z+8}{9} + 1 = \frac{2z+1}{6}$$

$$A) \left\{ \frac{31}{3} \right\}$$

$$B) \left\{ \frac{31}{4} \right\}$$

$$C) \left\{ \frac{37}{4} \right\}$$

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

Answer: B

$$261) |4x + 3| + 2 = 8$$

$$A) \{1, -3\}$$

$$B) \left\{ -\frac{3}{4}, \frac{9}{4} \right\}$$

$$C) \emptyset$$

$$D) \left\{ \frac{3}{4}, -\frac{9}{4} \right\}$$

Answer: D

$$262) |6t + 9| = -3$$

$$A) \{1, 2\}$$

$$B) \emptyset$$

$$C) \{-1, -2\}$$

$$D) \left\{ -\frac{2}{3}, -\frac{4}{3} \right\}$$

Answer: B

$$263) |-5x - 9| = |1 + 6x|$$

$$A) \left\{ -\frac{10}{11}, -8 \right\}$$

$$B) \left\{ -\frac{10}{11}, 8 \right\}$$

$$C) \emptyset$$

$$D) \left\{ -\frac{10}{11} \right\}$$

Answer: B

$$264) |x + 6| = |9 - x|$$

$$A) \left\{ \frac{3}{2} \right\}$$

$$B) \{3\}$$

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

$$D) \emptyset$$

Answer: A

Solve the equation for the specified variable.

$$265) 5x - 4y = 7 \text{ for } y$$

$$A) y = \frac{7 - 5x}{4}$$

$$B) y = \frac{5x + 7}{4}$$

$$C) y = \frac{5x - 7}{4}$$

$$D) y = 5x - 7$$

Answer: C

$$266) F = pq^2 + prq \text{ for } p$$

$$A) p = F - p - rq$$

$$B) p = \frac{F}{q^2 + rq}$$

$$C) p = \frac{F}{q^3 r}$$

$$D) p = \frac{q^2 + rq}{F}$$

Answer: B

$$267) C = \frac{5}{9}(F - 32) \text{ for } F$$

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

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

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

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

Answer: A

Solve the inequality. Write the answer in interval notation.

$$268) 3(2x - 9) - 4x > -(x + 6)$$

$$A) (11, \infty)$$

$$B) (21, \infty)$$

$$C) (7, \infty)$$

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

Answer: C

$$269) \frac{5x - 3}{3} - \frac{7x + 1}{4} \geq 0$$

A) $(-\infty, -15]$

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

C) $[3, \infty)$

D) $[-15, \infty)$

Answer: A

$$270) -7 < 2(x - 1) \leq 5$$

A) $\left[-\frac{5}{2}, \frac{7}{2}\right]$

B) $(-2, 3]$

C) $\left(-\infty, -\frac{5}{2}\right) \cup \left[\frac{3}{2}, \infty\right)$

D) $\left[-\frac{9}{2}, \frac{3}{2}\right]$

Answer: A

$$271) |7x + 6| \geq 7$$

A) $\left[-\frac{13}{7}, \frac{1}{7}\right]$

B) $\left[\frac{1}{7}, \infty\right)$

C) $\left[-\frac{13}{7}, \frac{1}{7}\right]$

D) $\left(-\infty, -\frac{13}{7}\right] \cup \left[\frac{1}{7}, \infty\right)$

Answer: D

$$272) |x - 4| + 7 < 10$$

A) $\emptyset$

B) $(1, 7)$

C) $(1, 10)$

D) $[1, 7]$

Answer: B

$$273) x \geq 5 \text{ and } x \geq 3$$

A) $\emptyset$

B) $[3, \infty)$

C) $[3, 5]$

D) $[5, \infty)$

Answer: D

$$274) x \geq 5 \text{ or } x \geq -1$$

A) $[5, \infty)$

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

C) $(-\infty, -1] \cup [5, \infty)$

D) $[-1, \infty)$

Answer: D

$$275) -5 \leq \frac{2x - 1}{3} < 2$$

A) $(-\infty, -7] \cup [4, \infty)$

B) $\left[-\frac{13}{2}, 4\right)$

C) $\left[-7, \frac{7}{2}\right)$

D) $\left[-8, \frac{5}{2}\right)$

Answer: C

$$276) 8x + 4 > 7x + 7 \text{ or } 1 - x > -5$$

A) $(-\infty, \infty)$

B) $\emptyset$

C) $(-\infty, 3) \cup (6, \infty)$

D) $(3, 6)$

Answer: A

Solve.

$$277) \text{ Find 13\% of 60.}$$

A) 7.8

B) 65

C) 78

D) 47

Answer: A

278) A computer company sold 7,120,000 computers this year. This represents a 9.55% decrease over the number of new computers sold 3 years ago. Use this information to find the number of new computers sold 3 years ago. Round to the nearest thousand.

A) 7,872,000 computers

B) 8,850,000 computers

C) 67,996,000 computers

D) 74,555,000 computers

Answer: A

279) A circular pen has circumference of 78.1 feet. Approximate π by 3.14 and estimate how many sheep could be safely kept in the pen if each sheep needs at least 55 square feet.

- A) 17 sheep B) 11 sheep C) 8 sheep D) 35 sheep

Answer: C

280) In 2006, the price of a lake front lot was \$101,000. This represents 119% increase over the price in 1994. Find the price of the lot in 1994.

- A) \$89,100 B) \$124,691 C) \$84,874 D) \$46,119

Answer: D

281) Find the amount of money in an account after 12 years if a principal of \$2800 is invested at 3.8% interest compounded quarterly.

- A) \$4380.53 B) \$7796.11 C) \$4408.20 D) \$4414.52

Answer: C

282) \$33 billion a year is spent on tourism in Florida, Louisiana, and Mississippi. Tourists spend \$2 billion more in Louisiana than they do in Mississippi. In Florida they spend \$1 billion less than twice the amount spent in Mississippi. Find the amount spent in each state.

- A) Mississippi: \$7 billion; Louisiana: \$9 billion; Florida: \$13 billion
B) Mississippi: \$10 billion; Louisiana: \$12 billion; Florida: \$11 billion
C) Mississippi: \$8 billion; Louisiana: \$10 billion; Florida: \$15 billion
D) Mississippi: \$9 billion; Louisiana: \$11 billion; Florida: \$17 billion

Answer: C