

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

~~test bank bittinger introductory and intermediate algebra 6e nan~~

Substitute to find the value of the expression.

- 1) Traveling at r kilometers per hour for t hours, a driver will travel rt kilometers. How far will Danny travel in 10 hours at a speed of 79 kilometers per hour?
- A) 7.9 km B) 790 mi C) 790 km D) 89 km

Answer: C

- 2) A plane flies at 649 miles per hour. The time, in hours, for the plane to travel a distance of d miles is $\frac{d}{649}$. How long will it take for the plane to travel 3245 miles?
- A) 5 hr B) 0.20 hr C) 8 hr D) 2,106,005 hr

Answer: A

- 3) A train must cover a distance of 2140 miles. The velocity, in miles per hour, of the train is $\frac{2140}{t}$ where t is the time, in hours, to complete the trip. If the train completes the trip in 20 hours, what is its velocity?
- A) 102 mph B) 0.01 mph C) 107 mph D) 42,800 mph

Answer: C

- 4) The area of a triangle with base b and height h is given by the formula $A = \frac{1}{2}bh$. Find the area of a triangle when the base is 3.4 centimeters and the height is 5.5 centimeters.
- A) 18.7 cm^2 B) 9.35 cm^2 C) 0.31 cm^2 D) 7.48 cm^2

Answer: B

- 5) The area of a rectangle of length ℓ and width w is given by the formula $A = \ell w$. Ann's backyard is rectangular with a length of 37.0 yards and a width of 25.8 yards. Find the area of Ann's backyard.
- A) 954.60 yd B) 954.60 yd^2 C) 62.8 yd^2 D) 62.8 yd

Answer: B

- 6) In one store, bananas cost 60 cents per pound. The cost, in dollars, of x pounds of bananas is $0.6x$. What is the cost of 2.0 pounds of bananas?
- A) \$0.33 B) \$1.20 C) \$3.33 D) \$1.40

Answer: B

- 7) Bill takes four times as long to do a job as Jose. Suppose t represents the time it takes Bill to do the job. Then $t/4$ represents the time it takes Jose. How long does it take Jose if it takes Bill 90 minutes?
- A) 94.00 min B) 22.50 min C) 360.00 min D) 86.00 min

Answer: B

- 8) Mary earns three times as much per week as Maureen. If x represents the amount that Maureen earns per week, then $3x$ represents the amount that Mary earns per week. How much does Mary earn per week if Maureen earns \$380 per week?
- A) \$126.67 B) \$383 C) \$377 D) \$1140

Answer: D

Evaluate.

9) $x + y$, when $x = 6$ and $y = 2$

A) -8

B) 8

C) 12

D) 4

Answer: B

10) $5x$, when $x = 4$

A) 9

B) 23

C) 20

D) 90

Answer: C

11) $\frac{p}{q}$, when $p = 14$ and $q = 2$

A) 6

B) 7

C) 8

D) $7\frac{1}{2}$

Answer: B

12) $\frac{6m}{n}$, when $m = 12$ and $n = 3$

A) 24

B) 48

C) 6

D) 4

Answer: A

13) $\frac{x+y}{10}$, when $x = 13$ and $y = 47$

A) 7

B) 5

C) 4

D) 6

Answer: D

14) $\frac{9x+2y}{4}$, when $x = 12$ and $y = 20$

A) 32

B) 148

C) 37

D) 29

Answer: C

Translate the phrase to an algebraic expression.

15) Six times x

A) $\frac{6}{x}$

B) $6x$

C) $6 - x$

D) $6 + x$

Answer: B

16) Four multiplied by x

A) $4x$

B) $4 - x$

C) $4 + x$

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

Answer: A

17) Four more than x

A) $x + 4$

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

C) $4 - x$

D) $4x$

Answer: A

18) x increased by six

A) 6

B) $x + 6$

C) $6x$

D) $x - 6$

Answer: B

19) Three less than x

A) $x - 3$

B) $3 - x$

C) $3x$

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

Answer: A

20) x subtracted from y

A) $\frac{y}{x}$

B) $\frac{x}{y}$

C) $x - y$

D) $y - x$

Answer: D

21) The quotient of x divided by eight

A) $8 + x$

B) $8 - x$

C) $\frac{x}{8}$

D) $8x$

Answer: C

22) Seven divided by x

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

B) $7 + x$

C) $7x$

D) $7 - x$

Answer: A

23) Twice x

A) $3x$

B) $3 + x$

C) $2x$

D) $2 + x$

Answer: C

24) The sum of x and y

A) $2xy$

B) $\frac{x}{y}$

C) xy

D) $x + y$

Answer: D

Translate to an algebraic expression.

25) Robbie drove his car at 65 mph for x hours. How many miles did he travel?

A) $65x$

B) $\frac{x}{65}$

C) $65 - x$

D) $\frac{65}{x}$

Answer: A

26) Leanne had \$33 remaining after paying y dollars for a dinner and a movie. How much did she have at the start of the evening?

A) $33 - y$

B) $33y$

C) $y - 33$

D) $33 + y$

Answer: D

27) Monica had \$23 before spending y dollars for a snack. How much money remains?

A) $23 - y$

B) $23y$

C) $y - 23$

D) $23 + y$

Answer: A

- 28) Alex had y dollars before spending \$35.50 for a book. How much did he have after the purchase?
A) $\$35.50y$ B) $\$35.50 + y$ C) $\$35.50 - y$ D) $y - \$35.50$
Answer: D

State the real number that corresponds to the situation.

- 29) The stock market gained 40 points on Monday.
A) -40 B) 40
Answer: B

- 30) During one year, 31 employees started work at Newline Manufacturing Company.
A) 31 B) -31
Answer: A

- 31) A football team gained 17 yards on one play.
A) 17 B) -17
Answer: A

- 32) In one state, the highest point is 4950 feet above sea level.
A) -4950 B) 4950
Answer: B

- 33) One country exported \$70,800,000 less than it imported, giving it a negative trade balance.
A) -70,800,000 B) 70,800,000
Answer: A

- 34) Sales at Andrea's Formal Wear Shop were \$5688 less this week than the sales last week.
A) 5688 B) -5688
Answer: B

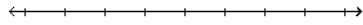
- 35) Mr. Voss decreased his speed by 6 miles per hour.
A) 6 B) -6
Answer: B

- 36) On a cloudy day, the water temperature in the swimming pool drops 10 degrees.
A) -10 B) 10
Answer: A

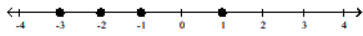
- 37) This year corn production decreased 55,000 pounds from last year on Steve's farm.
A) 55,000 B) -55,000
Answer: B

Graph the numbers on a number line.

38) -3, -1, 1, 3



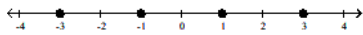
A)



B)



C)



D)



Answer: C

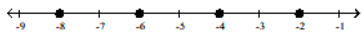
39) -8, -6, -4, -2



A)



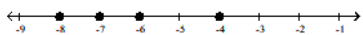
B)



C)



D)

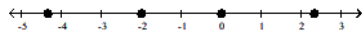


Answer: B

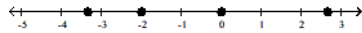
40) $-4\frac{2}{3}, -2, 0, 2\frac{2}{3}$



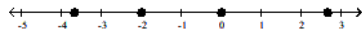
A)



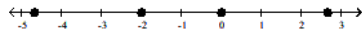
B)



C)

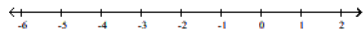


D)

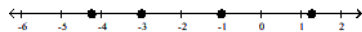


Answer: D

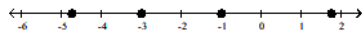
41) $-5.75, -3, -1, 1.25$



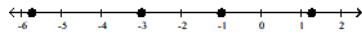
A)



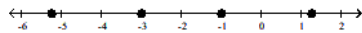
B)



C)



D)



Answer: C

Convert to decimal notation.

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

A) $-0.\overline{125}$

B) $-0.12\overline{5}$

C) -0.125

D) 0.125

Answer: C

43) $\frac{11}{16}$

A) 0.6875

B) 0.411

C) 2.0625

D) 1.375

Answer: A

44) $\frac{5}{6}$

A) $0.\overline{833}$

B) 0.8

C) $0.\overline{83}$

D) $0.\overline{83}$

Answer: C

45) $-\frac{1}{3}$

A) -3

B) 0.33333333

C) $-0.\overline{3}$

D) $0.\overline{3}$

Answer: C

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

A) $1.\overline{6}$

B) $5.\overline{5}$

C) 0.6

D) $0.\overline{5}$

Answer: D

47) $-\frac{7}{4}$

A) -0.175

B) -0.875

C) $-0.\overline{175}$

D) -1.75

Answer: D

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

A) -4.25

B) 4.25

C) 8.5

D) 12.75

Answer: B

49) $-\frac{13}{10}$

A) -0.13

B) -1.3

C) $-1.\overline{3}$

D) -2.6

Answer: B

50) $\frac{4}{15}$

A) $0.2\overline{6}$

B) $0.\overline{2}$

C) $3.7\overline{5}$

D) 0.3

Answer: A

51) $-\frac{7}{40}$

A) $-0.17\overline{5}$

B) -0.175

C) $-0.17\overline{5}$

D) -0.18

Answer: B

52) $\frac{13}{99}$

A) 0.13

B) $0.\overline{131}$

C) $0.\overline{13}$

D) $0.1\overline{3}$

Answer: C

Insert < or > to write a true statement.

53) $3 \underline{\hspace{1cm}} 0$

A) $3 < 0$

B) $3 > 0$

Answer: B

54) $0 \underline{\hspace{1cm}} -10$

A) $0 < -10$

B) $0 > -10$

Answer: B

55) $-2 \underline{\hspace{1cm}} 0$

A) $-2 > 0$

B) $-2 < 0$

Answer: B

56) $3 \underline{\hspace{1cm}} 2$

A) $3 < 2$

B) $3 > 2$

Answer: B

57) $-62 \underline{\hspace{1cm}} 39$

A) $-62 < 39$

B) $-62 > 39$

Answer: A

58) $-20 \underline{\hspace{1cm}} -61$

A) $-20 < -61$

B) $-20 > -61$

Answer: B

59) $5.5 \underline{\hspace{1cm}} 1.4$

A) $5.5 > 1.4$

B) $5.5 < 1.4$

Answer: A

60) $1 \underline{\hspace{1cm}} -0.333$

A) $1 > -0.333$

B) $1 < -0.333$

Answer: A

61) $9.06 \underline{\hspace{1cm}} -9.09$

A) $9.06 < -9.09$

B) $9.06 > -9.09$

Answer: B

62) $-\frac{7}{4} \underline{\hspace{1cm}} -\frac{3}{4}$

A) $-\frac{7}{4} > -\frac{3}{4}$

B) $-\frac{7}{4} < -\frac{3}{4}$

Answer: B

63) $-\frac{1}{2}$ _____ 1

A) $-\frac{1}{2} > 1$

B) $-\frac{1}{2} < 1$

Answer: B

64) $\frac{14}{22}$ _____ $\frac{2}{3}$

A) $\frac{14}{22} < \frac{2}{3}$

B) $\frac{14}{22} > \frac{2}{3}$

Answer: A

Write an inequality with the same meaning.

65) $23 < 28$

A) $28 \geq 23$

B) $28 < 23$

C) $28 > 23$

D) $23 > 28$

Answer: C

66) $32 \geq 30$

A) $32 > 30$

B) $30 \geq 32$

C) $32 \leq 30$

D) $30 \leq 32$

Answer: D

67) $-17 \leq x$

A) $-17 \geq x$

B) $x \geq -17$

C) $x \leq -17$

D) $x > -17$

Answer: B

68) $y > 21$

A) $y < 21$

B) $y \geq 21$

C) $21 < y$

D) $21 > y$

Answer: C

Determine whether the statement is true or false.

69) $7 \leq 16$

A) False

B) True

Answer: B

70) $11 > 9$

A) True

B) False

Answer: A

71) $12 < 6$

A) True

B) False

Answer: B

72) $-25 > -5$

A) True

B) False

Answer: B

73) $-20 \leq -19$

A) False

B) True

Answer: B

Find the absolute value.

74) $|17|$

A) 34

B) -17

C) 0

D) 17

Answer: D

75) $|-9|$

A) 18

B) -9

C) 0

D) 9

Answer: D

76) $|230|$

A) -230

B) 460

C) 0

D) 230

Answer: D

77) $|-5.8|$

A) 5.8

B) -5.8

C) 0

D) 11.6

Answer: A

78) $|5.202|$

A) 5.202

B) 10.404

C) -5.202

D) 0

Answer: A

79) $|-0.003|$

A) 0.006

B) -0.003

C) 0.003

D) 0

Answer: C

80) $\left| -\frac{5}{6} \right|$

A) 0

B) $\frac{5}{6}$

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

D) $-\frac{5}{6}$

Answer: B

81) $\left| \frac{0}{9} \right|$

A) -9

B) 9

C) 0

D) undefined

Answer: C

82) $\left| \frac{1}{7} \right|$

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

B) $\frac{1}{7}$

C) $-\frac{1}{7}$

D) 0

Answer: B

83) $\left| 8\frac{2}{7} \right|$

A) $8\frac{2}{7}$

B) $-8\frac{2}{7}$

C) 0

D) $16\frac{2}{7}$

Answer: A

Add. Do not use a number line except as a check.

84) $9 + (-1)$

A) 10

B) 8

C) -8

D) -10

Answer: B

85) $-3 + 6$

A) 9

B) 3

C) -3

D) -9

Answer: B

86) $12 + (-84)$

A) -72

B) -96

C) 96

D) 72

Answer: A

87) $-2 + 40$

A) -38

B) 38

C) -42

D) 42

Answer: B

88) $6 + -6$

A) 0

B) -6

C) 6

D) 12

Answer: A

89) $-43 + 0$

A) -430

B) 0

C) -43

D) 43

Answer: C

90) $-13 + (-5)$

A) -8

B) -18

C) 8

D) 18

Answer: B

91) $69 + (-12)$

A) -81

B) 81

C) 57

D) -57

Answer: C

92) $-8 + (-63) + 59 + (-37)$

A) -49

B) 25

C) -33

D) -167

Answer: A

93) $377 + (-87) + 31 + (-119) + (-26) + 367$

A) 543

B) -1007

C) 595

D) -543

Answer: A

94) $-9.3 + 5.3$

A) -14.6

B) -4

C) 14.6

D) 4

Answer: B

95) $-1.5 + 6.2$

A) 7.7

B) -7.7

C) -4.7

D) 4.7

Answer: D

96) $-2.4 + (-7.3)$

A) 9.7

B) -4.9

C) 4.9

D) -9.7

Answer: D

97) $-8.8 + (-7.1)$

A) -15.9

B) 1.7

C) 15.9

D) -1.7

Answer: A

98) $2.6 + (-6.3)$

A) 3.7

B) -3.7

C) -8.9

D) 8.9

Answer: B

99) $8.1 + (-3.2)$

A) 8.1

B) 11.3

C) -11.3

D) 4.9

Answer: D

100) $-1.2 + (-4.6) + 3.3$

A) 0.1

B) -2.5

C) -9.1

D) 6.7

Answer: B

101) $-5.6 + (-1.3) + 10.5$

A) 6.2

B) -3.6

C) -17.4

D) 3.6

Answer: D

102) $-2.2 + (-6.9) + (-5.7) + 11$

A) -12

B) 10

C) 7.6

D) -3.8

Answer: D

103) $-43 + 7.8 + (-12.2) + (-29) + 58$

A) 24

B) -34

C) -9.6

D) -18.4

Answer: D

104) $-\frac{2}{5} + \frac{4}{5}$

A) $\frac{6}{5}$

B) $-\frac{6}{5}$

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

D) $-\frac{2}{5}$

Answer: C

105) $-\frac{5}{7} + \frac{4}{7}$

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

B) $\frac{1}{7}$

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

D) $-\frac{1}{7}$

Answer: D

$$106) -\frac{1}{8} + \left(-\frac{5}{8}\right)$$

A) $-\frac{1}{2}$

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

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

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

Answer: D

$$107) -\frac{2}{9} + \left(-\frac{8}{9}\right)$$

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

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

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

D) $\frac{2}{3}$

Answer: C

$$108) -\frac{5}{6} + \frac{2}{3}$$

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

B) $\frac{3}{2}$

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

D) $-\frac{1}{6}$

Answer: D

$$109) -\frac{2}{5} + \frac{14}{15}$$

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

B) $-\frac{8}{15}$

C) $-\frac{4}{3}$

D) $\frac{8}{15}$

Answer: D

$$110) -\frac{7}{8} + \left(-\frac{3}{5}\right)$$

A) $-\frac{59}{13}$

B) $\frac{11}{40}$

C) $-\frac{59}{40}$

D) $-\frac{10}{13}$

Answer: C

$$111) -\frac{5}{14} + \frac{16}{21}$$

A) $\frac{17}{42}$

B) $\frac{11}{21}$

C) $\frac{19}{21}$

D) $\frac{17}{21}$

Answer: A

$$112) -7 + \left(-\frac{1}{10}\right) + \frac{9}{10}$$

A) $-\frac{31}{5}$

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

C) -62

D) -8

Answer: A

$$113) -71 + \left(-\frac{1}{9}\right) + 39 + \left(-\frac{2}{9}\right)$$

A) $-\frac{35}{9}$

B) $-\frac{97}{3}$

C) $-\frac{95}{3}$

D) $\frac{95}{3}$

Answer: B

Find the opposite, or additive inverse.

114) 20

A) 0

B) $\frac{1}{20}$

C) 20

D) -20

Answer: D

115) -23

A) -23

B) 23

C) 0

D) $\frac{1}{23}$

Answer: B

116) 17.7

A) 0

B) -17.7

C) $\frac{1}{17.7}$

D) 17.7

Answer: B

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

A) 8

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

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

D) -8

Answer: B

118) $\frac{11}{6}$

A) $\frac{11}{6}$

B) $\frac{6}{11}$

C) $-\frac{11}{6}$

D) $-\frac{6}{11}$

Answer: C

Evaluate -x for the given value of x.

119) $x = 3$

A) -4

B) -3

C) 0

D) 3

Answer: B

120) $x = -7.2$

A) $-\frac{1}{7.2}$

B) -7.2

C) 7.2

D) 0

Answer: C

121) $x = 32.2$

A) -32.2

B) 32

C) 32.2

D) $\frac{5}{161}$

Answer: A

122) $x = -3.86$

A) 3

B) 3.86

C) -3.86

D) 0

Answer: B

123) $x = 0$

A) -1

B) 0

C) -3

D) 1

Answer: B

124) $x = \frac{19}{4}$

A) $\frac{19}{4}$

B) $-\frac{19}{4}$

C) $\frac{4}{19}$

D) $-\frac{4}{19}$

Answer: B

125) $x = -\frac{1}{178}$

A) $-\frac{1}{178}$

B) 178

C) 0

D) $\frac{1}{178}$

Answer: D

126) $x = 2.241$

A) -3

B) -2

C) -2.241

D) 2.241

Answer: C

127) $x = -2.653$

A) -2.653

B) -3.1416

C) 2.653

D) 3.1416

Answer: C

128) $x = 5.4$

A) 5

B) -5

C) 5.4

D) -5.4

Answer: D

Evaluate $-(-x)$ for the given value of x .

129) $x = 43$

A) 0

B) 43

C) $\frac{1}{43}$

D) -43

Answer: B

130) $x = 137$

A) 137

B) $\frac{1}{137}$

C) 0

D) -137

Answer: A

131) $x = -67$

A) 67

B) $-\frac{1}{67}$

C) -67

D) 0

Answer: C

132) $x = \frac{1}{7}$

A) 7

B) 0

C) $-\frac{1}{7}$

D) $\frac{1}{7}$

Answer: D

133) $x = -\frac{1}{47}$

A) -47

B) $\frac{1}{47}$

C) $-\frac{1}{47}$

D) 47

Answer: C

134) $x = \frac{17}{4}$

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

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

C) $-\frac{17}{4}$

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

Answer: D

135) $x = -\frac{31}{42}$

A) $\frac{31}{42}$

B) $-\frac{42}{31}$

C) $\frac{42}{31}$

D) $-\frac{31}{42}$

Answer: D

136) $x = 1.68$

A) 1.68

B) $\frac{168}{10}$

C) -1.68

D) 168

Answer: A

137) $x = -32.89$

A) -0.03

B) -32.89

C) 0.03

D) 32.89

Answer: B

138) $x = -0.108$

A) -0.108

B) -1

C) 0

D) 0.108

Answer: A

Solve the problem.

139) The stock market gained 54 points on Tuesday and lost 56 points on Wednesday. It had closed on Monday at 2788 points. Where did the market close on Wednesday?

A) 2898 points

B) 2790 points

C) 2786 points

D) 2678 points

Answer: C

140) During one year 29 new employees began work at Daniel's Manufacturing Company and 16 employees left. At the beginning of the year there were 262 employees. What was the number of employees at the end of the year?

A) 275 employees

B) 307 employees

C) 291 employees

D) 217 employees

Answer: A

141) A football team gained 33 yards on one play, lost 31 yards on another, and gained 36 yards on the last play of the first half. They had already gained 383 yards during the half. What was the total yardage gain for the first half?

- A) 345 yards B) 421 yards C) 452 yards D) 483 yards

Answer: B

142) Annica owes \$666.40 on her charge card. She returns for credit items costing \$17.43 and \$45.27. She makes a purchase for \$29.42 and additional purchases of \$24.62, \$151.51, and \$139.76. She then makes a payment of \$697.43. Find the amount she now owes.

- A) \$251.58 B) \$1081.22 C) \$955.82 D) \$376.98

Answer: A

143) A machinist has flat metal plate that is 8.312 cm thick. He laminates the metal plate with four more layers that are 1.718 cm, 2.854 cm, 4.930 cm, and 4.291 cm thick. He then grinds off 3.090 cm from the top of the plate, then 2.285 cm more, and finally another 6.925 cm. Find the new thickness of the plate.

- A) 20.555 cm B) 6.819 cm C) 9.805 cm D) 12.895 cm

Answer: C

144) In four rounds of a card game, you get scores of 2, -9, -6, and -9. What is your final score?

- A) -26 B) -22 C) 26 D) 22

Answer: B

145) A bike road race starts at an elevation of 560 feet and passes through 5 stages where the elevation changes by 134 feet, 11 feet, 300 feet, -193 feet, and -211 feet. At what elevation does the race end?

- A) 11 feet B) 1409 feet C) -1409 feet D) 601 feet

Answer: D

146) The attendance at 3 games of a major sporting event fluctuated above and below the average according to the following table. What was the net change from the average attendance after these three games?

Game	Gain/Loss in Attendance
#1	-3500
#2	5911
#3	4899

- A) -14,310 B) 7310 C) -4512 D) -2488

Answer: B

147) Monday's closing value of your company's stock was up $\frac{1}{16}$. Tuesday's was up $\frac{1}{8}$, Wednesday's was down $\frac{1}{2}$,

but Thursday's closing was up again by $\frac{1}{4}$. Finally, the stock closed the week down $\frac{3}{16}$. What was the net

change for the week?

- A) $-\frac{1}{2}$ B) $\frac{3}{4}$ C) $-\frac{1}{4}$ D) $\frac{9}{8}$

Answer: C

Subtract.

148) $0 - 24$

- A) 0 B) $\frac{1}{24}$ C) -24 D) 24

Answer: C

- 149) $7 - 19$
 A) -26 B) -12 C) 26 D) 12
 Answer: B
- 150) $-10 - 5$
 A) 15 B) -5 C) 5 D) -15
 Answer: D
- 151) $9 - (-12)$
 A) 21 B) -3 C) 3 D) -21
 Answer: A
- 152) $-13 - (-17)$
 A) -30 B) -13 C) -4 D) 4
 Answer: D
- 153) $-18 - (-6)$
 A) -24 B) 24 C) -12 D) 12
 Answer: C
- 154) $-45 - (-77)$
 A) 32 B) -122 C) 122 D) -32
 Answer: A
- 155) $-1106 - (-1127)$
 A) 2233 B) -2233 C) -21 D) 21
 Answer: D
- 156) $-4 - (-4)$
 A) 4 B) -4 C) 1 D) 0
 Answer: D
- 157) $0 - (-16)$
 A) -16 B) -15 C) 0 D) 16
 Answer: D
- 158) $\frac{5}{19} - \frac{10}{19}$
 A) $\frac{5}{19}$ B) $-\frac{5}{361}$ C) -5 D) $-\frac{5}{19}$
 Answer: D
- 159) $\frac{3}{4} - \frac{1}{8}$
 A) $\frac{5}{8}$ B) $\frac{1}{4}$ C) $\frac{1}{2}$ D) $\frac{7}{8}$
 Answer: A

160) $\frac{3}{7} - \frac{1}{7}$

A) $\frac{4}{7}$

B) $-\frac{2}{7}$

C) $-\frac{4}{7}$

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

Answer: D

161) $-\frac{7}{8} - \frac{4}{5}$

A) $-\frac{67}{13}$

B) $-\frac{11}{13}$

C) $-\frac{67}{40}$

D) $\frac{3}{40}$

Answer: C

162) $\frac{2}{9} - \left(-\frac{3}{4}\right)$

A) $\frac{35}{36}$

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

C) $-\frac{35}{36}$

D) $-\frac{19}{36}$

Answer: A

163) $\frac{1}{6} - (7)$

A) $-\frac{6}{41}$

B) $-\frac{41}{6}$

C) $-\frac{4}{3}$

D) $\frac{41}{6}$

Answer: B

164) $\frac{11}{2} - \frac{11}{2}$

A) 0

B) $\frac{33}{2}$

C) undefined

D) $-\frac{33}{2}$

Answer: A

165) $-2.7 - 0$

A) 0

B) 2.7

C) -2.7

D) undefined

Answer: C

166) $-0.89 - 4$

A) -4.89

B) -3.11

C) 4.89

D) 3.11

Answer: A

167) $-7.1 - 12.9$

A) 20

B) 5.8

C) -20

D) -5.8

Answer: C

168) $-2.9 - (-0.1)$

A) -2.8

B) -3

C) 3

D) 2.8

Answer: A

- 169) $0.32 - 0.11$
 A) -0.33 B) 0.21 C) -0.43 D) 0.0352
 Answer: B
- 170) $0.58 - (-0.56)$
 A) 1.14 B) 0.3248 C) 0.02 D) 1.24
 Answer: A
- 171) $0.01 - (-4.674)$
 A) 4.684 B) 4.784 C) 0.047 D) 4.664
 Answer: A
- 172) $6.362 - (-0.88)$
 A) 5.482 B) 7.342 C) 5.599 D) 7.242
 Answer: D
- 173) $64.78 - 29$
 A) 36.28 B) 35.88 C) 93.78 D) 35.78
 Answer: D
- 174) $32 - 15.09$
 A) 17.01 B) 16.81 C) 16.90 D) 16.91
 Answer: D
- Simplify.
- 175) $12 + (-20) - 10$
 A) 2 B) -18 C) 42 D) 18
 Answer: B
- 176) $-8 + 12 - (-19) - 10$
 A) 13 B) 33 C) -29 D) -5
 Answer: A
- 177) $-13 - 0 - (-20) - 6 + 13$
 A) -40 B) -14 C) 26 D) 14
 Answer: D
- 178) $3 + (-17) - (-19) - 2 + 8$
 A) -5 B) 15 C) 11 D) -23
 Answer: C
- 179) $-6 + (-19) + (-11) + (-11) + 3 + (-6)$
 A) -50 B) -16 C) -56 D) -6
 Answer: A
- 180) $6 + (-12) + 5 + (-9) + 15 + (-19)$
 A) -24 B) -14 C) 0 D) -66
 Answer: B

181) $-4.3 - (-16.1) - (-18.3)$

A) 30.1

B) -2.1

C) -38.7

D) -30.1

Answer: A

182) $\frac{1}{4} - \left(-\frac{7}{16}\right) + \frac{1}{2} - \frac{5}{8}$

A) $\frac{5}{16}$

B) $\frac{2}{15}$

C) $\frac{9}{16}$

D) $-\frac{5}{16}$

Answer: C

183) $\frac{2}{17} - \frac{3}{34} + \frac{3}{17} - \frac{3}{34}$

A) $\frac{1}{17}$

B) $\frac{2}{17}$

C) $\frac{1}{34}$

D) $\frac{16}{17}$

Answer: B

184) $-\frac{15}{16} + \frac{1}{6} - \left(-\frac{1}{4}\right) + \frac{1}{4}$

A) $-\frac{13}{48}$

B) $-\frac{13}{40}$

C) $-\frac{37}{48}$

D) $\frac{53}{48}$

Answer: A

Solve the problem.

185) The stock market gained 6 points on Tuesday and lost 49 points on Wednesday. Find the difference between these changes.

A) 43 points

B) -55 points

C) 55 points

D) -43 points

Answer: C

186) Nikki is fishing from a bank 13 feet above water level. In this location, the fish tend to feed at 20 feet below the surface. How long must Nikki's fish line be to reach the fish?

A) 33 feet

B) 7 feet

C) -13 feet

D) -7 feet

Answer: A

187) Wayne has \$26.72 in his wallet. Janice has a debt note for \$30.45 in her wallet. Find the difference between these amounts.

A) -\$57.17

B) \$57.17

C) \$3.73

D) -\$3.73

Answer: B

188) Company A showed a profit of \$66,470 last year, while Company B had a loss of \$88,850. Find the difference between these amounts.

A) \$22,380

B) -\$155,320

C) \$155,320

D) -\$22,380

Answer: C

189) The temperature at the South pole was -10° at 8 am. At 3 pm, it was 22° . By how many degrees did the temperature rise?

A) -32°

B) -12°

C) 32°

D) 12°

Answer: C

190) The ocean surface is at 0 ft elevation. A diver is underwater at an elevation of -175 ft near a rock formation. In this area, the ocean floor has an elevation of -296 ft. The rock formation rises to a peak 222 ft above the ocean floor. How many feet below the top of the rock formation is the diver?

- A) 121 ft B) 101 ft C) 74 ft D) 47 ft

Answer: B

191) After one round in a card game, your score was -13 points. After the second round, your score was 36 points. How many points did you gain in the second game?

- A) 36 points B) -23 points C) 23 points D) 49 points

Answer: D

192) In a certain location, the highest temperature recorded was 102°F. The lowest temperature recorded was 124 degrees less than the highest. What was the lowest temperature?

- A) -138°F B) 22°F C) 0°F D) -22°F

Answer: D

193) The two charts show the weight gain of some people and the weight loss of other people. Use the information given to answer the question below.

Weight gain (in gms)		Weight loss (in gms)	
Abe	3,051	Don	-2,958
Bob	4,208	Ed	-2,177
Carl	1,695	Frank	-857

What is the difference between the weight gain of Bob and the weight loss of Ed?

- A) -2031 grams B) -6385 grams C) 2031 grams D) 6385 grams

Answer: D

Multiply.

194) $8 \cdot (-4)$

- A) -32 B) 40 C) -40 D) -28

Answer: A

195) $-10 \cdot 4$

- A) -40 B) -44 C) -30 D) 30

Answer: A

196) $-20 \cdot (-20)$

- A) -420 B) 400 C) 420 D) -400

Answer: B

197) $-16 \cdot (-6)$

- A) 96 B) 102 C) 112 D) -112

Answer: A

198) $10 \cdot (-9) \cdot (-17)$

- A) -73 B) -1530 C) -16 D) 1530

Answer: D

199) $7 \cdot (-3) \cdot 12 \cdot (-8)$

- A) -2016 B) 2016 C) -244 D) 8

Answer: B

- 200) $-3 \cdot (-7) \cdot (-9) \cdot 10 \cdot (-9)$
 A) -17,010 B) -18 C) 17,010 D) -1881
 Answer: C
- 201) $5 \cdot (-4) \cdot 7 \cdot (-7) \cdot 3 \cdot (-4) \cdot (-6)$
 A) -6 B) -70,560 C) -11,754 D) 70,560
 Answer: D
- 202) $(-1)^{30}$
 A) -30 B) -1 C) 30 D) 1
 Answer: D
- 203) $(-1)^7$
 A) -1 B) 7 C) 1 D) -7
 Answer: A
- 204) $-0.3 \cdot (-0.2)$
 A) 0.1 B) -0.5 C) -0.4 D) 0.06
 Answer: D
- 205) $-0.4 \cdot 4.08$
 A) 1.632 B) 3.68 C) -1.632 D) 4.48
 Answer: C
- 206) $2.5 \cdot (-7.55)$
 A) -18.875 B) 10.05 C) -5.05 D) 10.15
 Answer: A
- 207) $-3.4 \cdot (-15)$
 A) -18.4 B) 51 C) -11.6 D) 18.4
 Answer: B
- 208) $-2.63 \cdot (-8.5)$
 A) 22.355 B) 11.13 C) -5.87 D) -11.13
 Answer: A
- 209) $-0.4 \cdot (-12.2)$
 A) -11.8 B) 4.88 C) -12.6 D) 12.6
 Answer: B
- 210) $20 \cdot (-4.65)$
 A) 15.35 B) 24.65 C) -93 D) 24.75
 Answer: C
- 211) $-2 \cdot (-0.2) \cdot 8$
 A) -32 B) 32 C) 3.2 D) -3.2
 Answer: C

212) $-10 \cdot (-1.7) \cdot 3 \cdot (-0.04)$

A) 20.4

B) -20.4

C) 2.04

D) -2.04

Answer: D

213) $\frac{1}{6} \cdot \frac{1}{8}$

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

B) $\frac{1}{48}$

C) 48

D) $\frac{1}{7}$

Answer: B

214) $\left(-\frac{3}{8}\right) \cdot \left(-\frac{1}{9}\right)$

A) $\frac{1}{18}$

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

C) $\frac{8}{27}$

D) $\frac{1}{24}$

Answer: D

215) $\left(-\frac{7}{3}\right) \left(-\frac{6}{5}\right)$

A) $-\frac{13}{8}$

B) $\frac{7}{15}$

C) $\frac{18}{35}$

D) $\frac{14}{5}$

Answer: D

216) $\left(-\frac{1}{2}\right) \left(-\frac{22}{27}\right)$

A) $-\frac{20}{23}$

B) $\frac{11}{27}$

C) $\frac{44}{27}$

D) $\frac{1}{54}$

Answer: B

217) $\left(-\frac{11}{13}\right) \left(\frac{2}{3}\right)$

A) $-\frac{11}{351}$

B) $-\frac{26}{33}$

C) $\frac{29}{14}$

D) $-\frac{22}{39}$

Answer: D

218) $\left(-\frac{3}{8}\right) \left(-\frac{3}{8}\right)$

A) $-\frac{3}{8}$

B) 1

C) $\frac{3}{128}$

D) $\frac{9}{64}$

Answer: D

219) $\left(-\frac{14}{5}\right) \left(\frac{13}{6}\right)$

A) $-\frac{7}{15}$

B) $-\frac{91}{15}$

C) $-\frac{65}{84}$

D) $-\frac{1}{11}$

Answer: B

$$220) \left(-\frac{5}{7}\right) \cdot \left(\frac{7}{3}\right) \cdot \left(\frac{1}{5}\right)$$

A) $\frac{1}{5}$

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

C) $-\frac{5}{3}$

D) $-\frac{1}{21}$

Answer: B

$$221) \left(\frac{7}{19}\right) \left(-\frac{5}{14}\right) \left(\frac{3}{4}\right)$$

A) $-\frac{5}{38}$

B) $\frac{1}{5}$

C) $\frac{1}{760}$

D) $-\frac{15}{152}$

Answer: D

Evaluate the expression for the given value of x.

$$222) -2x^2, x = 3$$

A) 18

B) 12

C) -18

D) 36

Answer: C

$$223) (-4x)^2, x = 4$$

A) -64

B) 64

C) 256

D) -256

Answer: C

$$224) -3x^3, x = 2$$

A) -216

B) 24

C) -24

D) -18

Answer: C

$$225) 2x^3, x = -4$$

A) 128

B) -128

C) -24

D) -512

Answer: B

Solve the problem.

226) If a garage charges \$20 for an oil change, how much will it take in if oil is changed on 25 cars?

A) \$505

B) \$500

C) \$45

D) \$50

Answer: B

227) Julie averages 26 miles per gallon of gasoline in her car. How far can she travel on 14 gallons of gasoline?

A) 368 miles

B) 44 miles

C) 364 miles

D) 40 miles

Answer: C

228) If a roll of wallpaper costs \$24, how much will 10 rolls cost?

A) \$34

B) \$240

C) \$42

D) \$248

Answer: B

229) A stockbroker sold 80 shares of stock for \$47.11 each. What was the total amount of the sale?

A) \$3768.70

B) \$3768.91

C) \$3768.80

D) \$3768.90

Answer: C

230) John earns \$9.52/hour. If he works 17 hours, how much will he earn?

A) \$162.94

B) \$161.84

C) \$161.85

D) \$161.94

Answer: B

231) A population of a rural town was 11,000. It decreased 460 each year for 6 yr. What was the population of the town after 6 yr?

A) 8240

B) 8700

C) 7780

D) 13,760

Answer: A

Divide, if possible.

232) $\frac{42}{-7}$

A) 6

B) -6

C) -7

D) -5

Answer: B

233) $-14 \div (-7)$

A) -2

B) -3

C) 3

D) 2

Answer: D

234) $\frac{-90}{10}$

A) -19

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

C) -9

D) 9

Answer: C

235) $-52 \div 2$

A) -36

B) $-\frac{1}{26}$

C) -26

D) 26

Answer: C

236) $\frac{75}{-3}$

A) $-\frac{1}{25}$

B) 25

C) -35

D) -25

Answer: D

237) $-232 \div (-8)$

A) 19

B) $\frac{1}{29}$

C) -29

D) 29

Answer: D

238) $\frac{335}{-67}$

A) -15

B) $-\frac{1}{5}$

C) 5

D) -5

Answer: D

239) $\frac{-260}{-65}$

A) -4

B) 4

C) $\frac{1}{4}$

D) -7

Answer: B

240) $\frac{-91}{0}$

A) Not defined

B) 1

C) 0

D) 91

Answer: A

241) $\frac{0}{-59}$

A) Not defined

B) 0

C) 1

D) 59

Answer: B

Find the reciprocal, if it exists.

242) -8

A) 1

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

C) 8

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

Answer: D

243) -4

A) $-\frac{1}{4}$

B) $\frac{1}{4}$

C) 4

D) 0

Answer: A

244) $\frac{4}{7}$

A) $-\frac{7}{4}$

B) $-\frac{4}{7}$

C) 1

D) $\frac{7}{4}$

Answer: D

245) $-\frac{5}{7}$

A) $-\frac{7}{5}$

B) 1

C) $\frac{5}{7}$

D) $\frac{7}{5}$

Answer: A

246) 0

A) No reciprocal

B) 0

C) 1

Answer: A

247) $\frac{1}{6.3}$

A) -6.3

B) $\frac{6.3}{0}$

C) 1

D) 6.3

Answer: D

248) -2.7

A) 1

B) $-\frac{2.7}{0}$

C) 2.7

D) $-\frac{1}{2.7}$

Answer: D

249) $\frac{1}{8x}$

A) $\frac{8}{x}$

B) $8x$

C) No reciprocal

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

Answer: B

250) $\frac{-1}{2y}$

A) $-\frac{y}{2}$

B) $-2y$

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

D) $2y$

Answer: B

251) $\frac{8x}{5y}$

A) $\frac{8y}{5x}$

B) $\frac{8x}{5y}$

C) $\frac{5y}{8x}$

D) $\frac{5x}{8y}$

Answer: C

252) $\frac{3b}{-7a}$

A) $-\frac{3b}{7a}$

B) $-\frac{7b}{3a}$

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

D) $-\frac{7a}{3b}$

Answer: D

Rewrite the division as a multiplication.

253) $8 \div 17$

A) $8 \cdot -17$

B) $-8 \cdot 17$

C) $17 \cdot \frac{1}{8}$

D) $8 \cdot \frac{1}{17}$

Answer: D

254) $\frac{4}{-15}$

A) $-4 \cdot -15$

B) $-4 \cdot \frac{1}{4}$

C) $4 \cdot \left(-\frac{1}{15}\right)$

D) $4 \cdot 15$

Answer: C

255) $-\frac{5}{13}$

A) $-13 \cdot \left(\frac{1}{5}\right)$ or $13 \cdot \left(-\frac{1}{5}\right)$
 C) $-5 \cdot \left(\frac{1}{13}\right)$ or $5 \cdot \left(-\frac{1}{13}\right)$

B) $-5 \cdot -13$ or $5 \cdot 13$

D) $-5 \cdot 13$ or $5 \cdot -13$

Answer: C

256) $\frac{25.8}{-1.6}$

A) $25.8 \cdot \left(-\frac{1}{1.6}\right)$

B) $-25.8 \cdot 1.6$

C) $25.8 \cdot 1.6$

D) $25.8 \left(\frac{1}{1.6}\right)$

Answer: A

257) $\frac{5}{\frac{1}{a}}$

A) $5 \cdot \frac{1}{a}$

B) $5 \cdot a$

C) $\frac{1}{5} \cdot a$

D) $\frac{1}{5} \cdot \frac{1}{a}$

Answer: B

258) $\frac{5x+8}{6}$

A) $(5x+8)(-6)$

B) $(5x+8)\left(\frac{1}{6}\right)$

C) $6\left(\frac{1}{5x+8}\right)$

D) $(5x+8)\left(-\frac{1}{6}\right)$

Answer: B

Divide.

259) $\frac{1}{5} \div \left(-\frac{5}{8}\right)$

A) $-\frac{8}{25}$

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

C) -8

D) $-\frac{25}{8}$

Answer: A

260) $\frac{4}{7} \div \left(-\frac{7}{5}\right)$

A) $-\frac{20}{49}$

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

C) $-\frac{49}{20}$

D) $-\frac{4}{5}$

Answer: A

261) $\frac{2}{3} \div \left(-\frac{1}{9}\right)$

A) -6

B) $-\frac{27}{2}$

C) $-\frac{2}{27}$

D) $-\frac{1}{6}$

Answer: A

$$262) -\frac{5}{4} \div \left(-\frac{4}{5}\right)$$

A) 1

B) $-\frac{25}{16}$

C) $\frac{25}{16}$

D) -1

Answer: C

$$263) \frac{4.2}{0.6}$$

A) 7

B) $\frac{1}{7}$

C) 3.6

D) 36

Answer: A

$$264) \frac{-3.2}{0.8}$$

A) -4

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

C) -2.4

D) -24

Answer: A

$$265) \frac{3.6}{0.06}$$

A) $\frac{1}{60}$

B) 3.54

C) 35.4

D) 60

Answer: D

$$266) -1 \div 0.05$$

A) -20

B) -9.5

C) -0.95

D) $\frac{1}{20}$

Answer: A

$$267) \frac{-96}{8 - 8}$$

A) 0

B) -6

C) -96

D) Undefined

Answer: D

$$268) \frac{-13}{-2 - (-1)}$$

A) 13

B) 4

C) -4

D) -13

Answer: A

Solve the problem.

269) In Smithville, there were 242 teachers in 1990 and 321 teachers in 2000. Find the percent of increase in the number of teachers in Smithville during this time period. Round to the nearest tenth of a percent.

A) 39.2%

B) 24.6%

C) 32.6%

D) 35.9%

Answer: C

270) Clearwater Community College had 1234 students enrolled in 1998 and 980 students enrolled in 1999. Find the percent of decrease in the number of students from 1998 to 1999. Round to the nearest tenth of a percent.

A) -25.9%

B) -16.5%

C) -20.6%

D) -18.5%

Answer: C

Find an equivalent expression with the given denominator.

271) $\frac{2}{7} = \frac{?}{7y}$

A) $\frac{2y}{7y}$

B) $\frac{y}{7y}$

C) $\frac{14}{7y}$

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

Answer: A

272) $\frac{6}{11} = \frac{?}{33x}$

A) $\frac{18}{33x}$

B) $\frac{18x}{33x}$

C) $\frac{6x}{33x}$

D) $\frac{17x}{33x}$

Answer: B

273) $\frac{3}{5y} = \frac{?}{5y^2}$

A) $\frac{y}{5y^2}$

B) $\frac{3y^2}{5y^2}$

C) $\frac{3y}{5y^2}$

D) $\frac{15y}{5y^2}$

Answer: C

274) $\frac{2}{9x} = \frac{?}{9xy}$

A) $\frac{2y}{9xy}$

B) $\frac{y}{9xy}$

C) $\frac{18y}{9xy}$

D) $\frac{2xy}{9xy}$

Answer: A

Simplify.

275) $-\frac{25t}{15t}$

A) $-\frac{5t}{3}$

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

C) $\frac{5t}{3}$

D) $-\frac{5}{3}$

Answer: D

276) $\frac{50xy}{40xy}$

A) $\frac{5xy}{4}$

B) $\frac{5}{4}$

C) $-\frac{5}{4}$

D) $-\frac{5xy}{4}$

Answer: B

277) $\frac{14xy}{13xy}$

A) $\frac{14x}{13x}$

B) $\frac{y}{13y}$

C) $\frac{1}{13}$

D) $\frac{14}{13}$

Answer: D

278) $\frac{15ab}{16b}$

A) $\frac{a}{9b}$

B) $-\frac{15}{9a}$

C) $-\frac{a}{9b}$

D) $\frac{15a}{16}$

Answer: D

279) $\frac{3a}{4ab}$

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

B) $\frac{1}{4b}$

C) $\frac{3a}{4}$

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

Answer: D

280) $\frac{14mn}{6n}$

A) $\frac{14m}{6}$

B) $\frac{2}{3}m$

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

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

Answer: D

281) $\frac{6xy}{9xy}$

A) $\frac{2}{9}$

B) $\frac{3y}{2x}$

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

D) $\frac{2}{3}$

Answer: D

282) $\frac{-12b}{96b}$

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

B) -12

C) $-\frac{1}{8}b$

D) $-\frac{1}{96}b$

Answer: A

Write an equivalent expression. Use a commutative law.

283) $5 + b$

A) $5(1 + b)$

B) $5b$

C) $b + 5$

D) $b5$

Answer: C

284) $y + 2$

A) y^2

B) $2(y + 1)$

C) $2 + y$

D) $2y$

Answer: C

285) $3 + xy$

A) $xy + 3$, or $3 + yx$

B) $3xy$, or $3yx$

C) $3 + x + y$

D) $3(1 + xy)$

Answer: A

286) wx

A) xw

B) $w \div x$

C) $w + x$

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

Answer: A

287) $pq + z$

A) $z - pq$

B) $pq - z$

C) $qp + z$, or $z + pq$

D) pqz , or $p + q + z$

Answer: C

Write an equivalent expression. Use an associative law.

288) $(x + 8) + y$

A) $x(8 + y)$

B) $(8 + x) + y$

C) $x + (8 + y)$

D) $y + (x + 8)$

Answer: C

289) $2 + (s + t)$

A) $(s + t) + 2$

B) $2 + (t + s)$

C) $2(s + t)$

D) $(2 + s) + t$

Answer: D

290) $(5 + u) + v$

A) $(5 + v) + u$

B) $(u + 5) + v$

C) $5 + (u + v)$

D) $v + (5 + u)$

Answer: C

291) $a + (b + 5)$

A) $a(b + 5)$

B) $a + (5 + b)$

C) $(b + 5) + a$

D) $(a + b) + 5$

Answer: D

292) $r + (3 + s)$

A) $(3 + s) + r$

B) $r + (s + 3)$

C) $(r + 3) + s$

D) $r(3 + s)$

Answer: C

293) $(6x)y$

A) $(6y)x$

B) $(x6)y$

C) $6x + 6y$

D) $6(xy)$

Answer: D

294) $7(ab)$

A) $7(ba)$

B) $a(7b)$

C) $(7a)b$

D) $7a + 7b$

Answer: C

295) $(5s)t$

A) $5s + 5t$

B) $t(5s)$

C) $5(st)$

D) $(s5)t$

Answer: C

296) $8(np)$

A) $8(pn)$

B) $8(n + p)$

C) $(8n)p$

D) $8n + 8p$

Answer: C

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

Use the commutative and/or associative laws to rewrite the given expression. Label each step with a reason.

297) $(x + 7) + y$ as $7 + (x + y)$

Answer: $(x + 7) + y = (7 + x) + y$ Using the commutative law
 $= 7 + (x + y)$ Using the associative law

298) $2 + (a + b)$ as $b + (2 + a)$

Answer: $2 + (a + b) = (2 + a) + b$ Using the associative law
 $= b + (2 + a)$ Using the commutative law

299) $x(y9)$ as $9(xy)$

Answer: $x(y9) = (xy)9$ Using the associative law
 $= 9(xy)$ Using the commutative law

300) $(7)m$ as $7(m)$

Answer: $(7)m = (7)m$ Using the commutative law
 $= 7(m)$ Using the associative law

301) $s(t9)$ as $9(ts)$

Answer: $s(t9) = (t9)s$ Using the commutative law
 $= (9t)s$ Using the commutative law
 $= 9(ts)$ Using the associative law

302) $(y + z) + 5$ as $(5 + z) + y$

Answer: $(y + z) + 5 = 5 + (y + z)$ Using the commutative law
 $= 5 + (z + y)$ Using the commutative law
 $= (5 + z) + y$ Using the associative law

303) $(6 + y) + 4$ as $y + 10$

Answer: $(6 + y) + 4 = (y + 6) + 4$ Using the commutative law
 $= y + (6 + 4)$ Using the associative law
 $= y + 10$ Simplifying

304) $(x + 2) + 3$ as $5 + x$

Answer: $(x + 2) + 3 = x + (2 + 3)$ Using the associative law
 $= x + 5$ Simplifying
 $= 5 + x$ Using the commutative law

305) $(4w)5$ as $20w$

Answer: $(4w)5 = 5(4w)$ Using the commutative law
 $= (5 \cdot 4)w$ Using the associative law
 $= 20w$ Simplifying

306) $(z7)2$ as $14z$

Answer: $(z7)2 = z(7 \cdot 2)$ Using the associative law
 $= z(14)$ Simplifying
 $= 14z$ Using the commutative law

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

Multiply.

307) $8(x + 4)$

A) $32x$

B) $8x + 8$

C) $8x + 4$

D) $8x + 32$

Answer: D

308) $3(7 + m)$

A) $21 + 7m$

B) $21m$

C) $21 + 3m$

D) $21 + m$

Answer: C

309) $7(a + b)$

A) $7a + 7b$

B) $7ab$

C) $14ab$

D) $7a + b$

Answer: A

310) $2(2x + 3)$

A) $12x$

B) $2x + 6$

C) $4x + 3$

D) $4x + 6$

Answer: D

311) $6(5 + 9s)$

A) $30 + 9s$

B) $5 + 54s$

C) $30 + 270s$

D) $30 + 54s$

Answer: D

312) $3(3x + 5y + 2)$

A) $9x + 15y + 6$

B) $9x + 5y + 6$

C) $9x + 5y + 2$

D) $9x + 15y + 2$

Answer: A

313) $7(3r + 5 + 9s)$

A) $21r + 5 + 63s$

B) $21r + 35 + 9s$

C) $21r + 35 + 63s$

D) $21r + 5 + 9s$

Answer: C

314) $-5.9(6.2x - 2.3y - 1.2)$

A) $-36.58x + 13.57y - 1.2$

C) $-36.58x + 13.57y + 7.08$

B) $-36.58x - 13.57y - 7.08$

D) $-36.58x - 2.3y - 1.2$

Answer: C

315) $\frac{9}{7}(a - b + 7)$

A) $\frac{9}{7}a + \frac{9}{7}b + 63$

B) $\frac{9}{7}a - \frac{9}{7}b + 7$

C) $\frac{9}{7}a - \frac{9}{7}b + 9$

D) $\frac{9}{7}a - b + 7$

Answer: C

List the terms of the expression.

316) $11x + 7y$

A) $11x, -7y$

B) $11x, 7y$

C) $11, 7$

D) $11, x, 7, y$

Answer: B

317) $-6x + 17y$

A) $-6, x, 17, y$

B) $6x, 17y$

C) $-6x, 17y$

D) $-6x, -17y$

Answer: C

- 318) $6 - 6a + 5b$
 A) 6, -6, a, 5, b B) -6, 5b C) 6, 6a, 5b D) 6, -6a, 5b
 Answer: D
- 319) $-4 + 6a - 9b$
 A) -4, 6a, -9b B) -4, 6, a, -9, b C) 6a, 9b D) 4, 6a, 9b
 Answer: A
- 320) $-4 + 4m + 7mn$
 A) -4, 4m, 7m, n B) -4, 4m, 7m, 7n C) 4m, 7mn D) -4, 4m, 7mn
 Answer: D
- 321) $3 - 3x - 7xy - 5$
 A) -3x, -7xy B) -2, -3x, -7xy C) 3, -3x, -7xy, -5 D) 3, -3x, -7, x, y, -5
 Answer: C
- 322) $-1 + 6r - 5rt$
 A) 1, 6r, 5rt B) -1, 6r, -5r, t C) -1, 6r, -5rt D) -1, 6r, 5rt
 Answer: C
- 323) $11 - 5ab - 9b$
 A) -11, -5, a, b, -9b B) 11, 5ab, 9b C) 11, 5, a, b, 9 D) 11, -5ab, -9b
 Answer: D
- 324) $-4 + 2a - 8b - 4ab$
 A) -4, -2a, -8b, -4ab B) -4, 2a, -8b, -4ab C) -4, 2a, 8b, 4ab D) -4, 2a, -8b, -4, ab
 Answer: B
- Factor. Check by multiplying.
- 325) $4 + 4z$
 A) $4(1 + z)$ B) $4(4 + z)$ C) $4(1 + 4z)$ D) $4(0 + z)$
 Answer: A
- 326) $15a + 3b$
 A) $5(3a + 3b)$ B) $15(a + b)$ C) $3(5a + 3b)$ D) $3(5a + b)$
 Answer: D
- 327) $14x + 21$
 A) $14(x + 3)$ B) $7(2x + 21)$ C) $14(x + 21)$ D) $7(2x + 3)$
 Answer: D
- 328) $7x - 42y$
 A) $7(x - 42y)$ B) $7(x - 6y)$ C) $7(x - y)$ D) $6(7x - 7y)$
 Answer: B
- 329) $7m - 49n + 35$
 A) $49(7m - n + 35)$ B) $7(m - 7n + 35)$ C) $7(m - 7n + 5)$ D) $7(m - 49n + 35)$
 Answer: C

330) $15 + 5w + 20y$
 A) $5(3 + w + 20y)$ B) $15(1 + 5w + 20y)$ C) $5(3 + w + 4y)$ D) $5(3 + 5w + 20y)$
 Answer: C

331) $2s + 6 + 20t$
 A) $20(s + 3 + t)$ B) $2(s + 6 + 10t)$ C) $2(s + 6 + 20t)$ D) $2(s + 3 + 10t)$
 Answer: D

332) $5 + 55a + 25b$
 A) $55(1 + a + b)$ B) $5(0 + 11a + 5b)$ C) $5(1 + 11a + 5b)$ D) $5(1 + 55a + 25b)$
 Answer: C

333) $ar - as + at$
 A) $ar(1 - s + t)$ B) $a(r + s + t)$ C) $r(a - s + t)$ D) $a(r - s + t)$
 Answer: D

334) $\frac{1}{6}x - \frac{5}{6}y + \frac{11}{6}$
 A) $\frac{1}{6}(x - 5y + 11)$ B) $\frac{1}{6}\left(x - \frac{5}{6}y + \frac{11}{6}\right)$ C) $6(x - 5y + 11)$ D) $\frac{1}{6}(x + 5y - 11)$
 Answer: A

Collect like terms.

335) $9a - 3a + 6$
 A) $6a + 6$ B) $-6a + 6$ C) $12a$ D) $12a + 6$
 Answer: A

336) $-3b + 9b$
 A) $-6b$ B) $6b$ C) $-12b$ D) $6b^2$
 Answer: B

337) $-8z - (-3z)$
 A) $-5z^2$ B) $5z$ C) $-5z$ D) $-11z$
 Answer: C

338) $-12y - 8x - 4x$
 A) $-12y + 4x$ B) $-24xy$ C) $-12y - 4x$ D) $-12y - 12x$
 Answer: D

339) $\frac{1}{3}y - y + 5y$
 A) $-\frac{13}{3}y$ B) $\frac{16}{3}y$ C) $\frac{13}{3}y$ D) $-\frac{16}{3}y$
 Answer: C

340) $5q - 4 - 3p + 2q - 3p$
 A) $5q - 6p - 6$ B) $7q - 6p - 4$ C) $7q - 3p - 4$ D) $7q + 6p + 4$
 Answer: B

341) $-9 + 12m + 12n - 8m + 4n - 7$

A) $16m + 4n + 16$

B) $4m + 16n - 16$

C) $24m - 4n - 16$

D) $3m + 4n - 3$

Answer: B

342) $\frac{7}{3}x + \frac{5}{6}y - \frac{3}{4}x - \frac{2}{3}y + 3$

A) $\frac{19}{12}x + \frac{1}{6}y + 3$

B) $\frac{19}{12}x + \frac{1}{2}y + 3$

C) $\frac{7}{4}x + \frac{5}{9}y + 3$

D) $\frac{19}{12}x + \frac{3}{2}y + 3$

Answer: A

343) $9.2a + 5.5b - 6.7a - 1.5b$

A) $2.5a + 7.0b$

B) $2.5a + 4.0b$

C) $15.9a + 7.0b$

D) $-2.5a + 4.0b$

Answer: B

344) $7x - 0.4y + 0.6x + 2y$

A) $7.6x + 1.6y$

C) $7x + 0.6x - 0.4y + 2y$

B) $1.6x + 7.6y$

D) $7.6x - 0.4y + 2$

Answer: A

Find an equivalent expression without parentheses.

345) $-(8x - 2)$

A) $16x$

B) $8x - 2$

C) $-8x + 2$

D) $-8x - 2$

Answer: C

346) $-(-3 + 9y)$

A) $3 - 9y$

B) $27y$

C) $-3 + 9y$

D) $3 + 9y$

Answer: A

347) $-(-8x + 13y - 15z)$

A) $8x - 13y - 15z$

B) $8x + 13y - 15z$

C) $-8x + 13y - 15z$

D) $8x - 13y + 15z$

Answer: D

Remove parentheses and simplify.

348) $6x - (9 - 3x)$

A) $3x - 9$

B) $9x - 9$

C) $6x - 12$

D) $9x + 9$

Answer: B

349) $-7(9r + 8) + 4(8r + 9)$

A) $2r + 1$

B) $-31r - 20$

C) $-31r + 8$

D) $-119r$

Answer: B

350) $-4.9(9r + 9) + 3.9(5r + 7)$

A) $-24.6r + 9$

B) $-88.2r$

C) $-24.6r - 16.8$

D) $4.1r + 4.1$

Answer: C

351) $18r + 18 - 5(2r + 10)$

A) $8r + -32$

B) $18r + 10$

C) $8r + 5$

D) $-60r$

Answer: A

352) $(3x - 2y + 7) - 2(-3x + 2y - 7)$

A) $-9x + 6y - 21$

B) $-6x + 4y - 14$

C) $6x - 4y + 14$

D) $9x - 6y + 21$

Answer: D

Simplify.

353) $(3 + 8)[5 + (2 + 7)]$

A) 56

B) 456

C) 336

D) 154

Answer: D

354) $4[49 + 8(6 + 8)]$

A) 420

B) 140

C) 3192

D) 644

Answer: D

355) $[3(x - 5) - 9] + [8(x - 1) + 8]$

A) $11x - 9$

B) $11x - 24$

C) $3x - 32$

D) $11x - 14$

Answer: B

356) $2\{[6(x - 1) + 7] - [2(3x - 1) + 7]\}$

A) -8

B) 0

C) $12x - 4$

D) $24x - 8$

Answer: A

357) $30 + 17 \cdot 10 - (-3)$

A) 467

B) 473

C) 60

D) 203

Answer: D

358) $20 + (-27)(-9) - 24$

A) -705

B) 32

C) 239

D) 399

Answer: C

359) $23(-22) + 27(-29)$

A) 32,683

B) 101

C) -1289

D) 1289

Answer: C

360) $(-28 - 4)(-19 - 15)$

A) 96

B) -1088

C) 1088

D) -96

Answer: C

361) $14 + 2^2(23) - (-4)$

A) 418

B) 43

C) 364

D) 110

Answer: D

362) $(-8 - 7)[7 + (3 + 7)]$

A) 28

B) 32

C) -115

D) -255

Answer: D

$$363) \frac{6 \cdot (7 + 5) + 6 \cdot 3}{6 \cdot (2 - 1)}$$

A) $8\frac{2}{11}$

B) $14\frac{5}{11}$

C) 15

D) 2

Answer: C

$$364) -|-14| - |-22 - 6|$$

A) -42

B) -14

C) 14

D) 42

Answer: A

$$365) \frac{9 - 4^2}{7^2 + 2^2}$$

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

B) $-\frac{7}{53}$

C) $\frac{25}{53}$

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

Answer: B

$$366) \frac{125 - 4 \cdot 5}{3^3 \div 3^2 - (-3)^2}$$

A) $\frac{35}{4}$

B) 1

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

D) $-\frac{35}{2}$

Answer: D

Provide an appropriate response.

367) There is a distributive property for multiplication with respect to addition: $a(b + c) = ab + ac$. Is there a distributive property for division with respect to addition? If so, state the property.

A) No.

B) Yes. $a/(b + c) = a/b + a/c$

Answer: A

368) Choose the expression that is equivalent to the following: $0 + 6a$

A) 0

B) $6a$

C) $6 + a$

D) $-6a$

Answer: B

369) Choose the expression that is equivalent to the following: $4(3a) + 4(8b)$

A) $4(3a + 8b)$

B) $8(11ab)$

C) $8(3a + 8b)$

D) $4(11ab)$

Answer: A

370) Choose the expression that is equivalent to the following: $6x + 2y$

A) $8xy$

B) $2(3x + y)$

C) $2(4x + y)$

D) $2(3x + 2y)$

Answer: B

371) Choose the expression that is equivalent to the following: $(3x + 4y)(4y + 8x)$

A) $(3x + 8x)(4y + 4y)$

B) $(3x + 4y)(8x + 4y)$

C) $11x + 8y$

D) $(3x + 4y)(8y + 4x)$

Answer: B

372) Choose the expression that is equivalent to the following: $(8x + 4y)(5y^3)$

A) $(8x) + (4y)(5y^3)$

B) $(8x + 5y^3)(4y)$

C) $(5y^3)(8x + 4y)$

D) $8x + (4y + 5y^3)$

Answer: C

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

373) Is the integer 0 positive or negative? Explain.

Answer: The integer is neither. It is not a signed integer. It is the starting point on a number line.

374) Is this statement true or false? Why?

$$(8 - 8) - 8 = 8 - (8 - 8)$$

Answer: False. Answers will vary.

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

375) According to the rules for the order of operations, what should be the first step when simplifying the expression

$$[-6 + (-9 + 7)] + (-7 + 6)?$$

A) find the sum of 7 and -7

B) find the sum of -9 and 7

C) find the sum of -6 and -9

D) find the sum of -6 and -7

Answer: B

376) Choose the expression that is equivalent to the following: $1(3y^2)$

A) $3y^2$

B) $3y^3$

C) 1

D) $4y^2$

Answer: A