

Student Name: _____

Class: _____

Date: _____

Instructions: **Read each question carefully and circle the correct answer.**

1. Translate the following word problem into an expression.

This week Vashti ran ten miles less than twice the number of miles she ran during the week before. How many miles did Vashti run this week? Let x represent the number of miles she ran the previous week.

- A. $10 - 2x$
- B. $2x - 10$
- C. $10 + 2x$
- D. $2(x - 10)$

2. Solve for a.

$$a - -6 = 12$$

- A. $a = 6$
- B. $a = -6$
- C. $a = 18$
- D. $a = -18$

3. What is the value of b?

$$10.75 = 4.3b$$

- A. 6.45
- B. 2.5
- C. 46.225
- D. 14.75

4. Choose the equation you could use to solve this problem.

Madison is twice as old as Emma. Emma is three years younger than Nicole. Nicole is 11 years old. How old is Madison?

- A. $T(11 + 3) = 2$
- B. $T(11 - 3) = 2$
- C. $2(11 + 3) = T$
- D. $2(11 - 3) = T$

5. What is another way to write:

$$3^6$$

- A. 3×6
- B. $6 \times 6 \times 6$
- C. $3 \times 3 \times 3 \times 3 \times 3 \times 3$
- D. 30×6

6. Find the standard form for:

$$5^2$$

- A. 7
- B. 52
- C. 10
- D. 25

7. Find the equivalent form.

$$(12 \times 10^3) - (2 \times 10^3) =$$

- A. 1,400
- B. 1,000
- C. 14,000
- D. 10,000

8. For $t = 26$, find $t + -20$.

- A. 6
- B. -6
- C. 46
- D. -46

9. Evaluate the expression for $t = -2$.

$$\frac{t-6}{-4}$$

- A. 1
- B. -1
- C. 2
- D. -2

10. Simplify and evaluate the expression for $a = -0.5$, $b = 2.5$.

$$2.5a - 3b(-4.1 + a(-3.3b - b) - b) + a$$

- A. -457.0125
- B. 7.4375
- C. -21.225
- D. 37.95

11. Which mathematical expression best represents the word expression?

Six times a number less eight

- A. $6 - 8x$
- B. $8x - 6$
- C. $8 - 6x$
- D. $6x - 8$

12. Which mathematical expression represents the word expression?

3 decreased by some number

- A. $n - 3$
- B. $3n$
- C. $3 + n$
- D. $3 - n$

13. Find the missing number.

2, 6, 10, 14, ?, 22

- A. 16
- B. 18
- C. 20
- D. 24

14. Rachel wants to check the answer to one of her homework problems. Her work is below.

$$3 \times 6 = 18$$

Which number sentence can she use to check her work?

- A. $18 - 6 = 12$
- B. $18 \div 6 = 3$
- C. $6 + 3 = 9$
- D. $18 \times 6 = 108$

15. Fill in the blank.

If $N \times 5 = 200$, then N is _____.

- A. 40
- B. 10
- C. 44
- D. 400

16. Find the missing symbol.

$$(28 \div 2) + (19 \text{ ? } 3) = 71$$

- A. +
- B. -
- C. x
- D. \div

17. Solve.

$$[(3 \times 3) + (1 \times 7)] \div 2 =$$

- A. 6
- B. 7
- C. 8
- D. 5

18. What must you add to $(x^3 + 4x^2 + 8x - 12)$
to obtain $(4x^4 - x^2 - 2x - 31)$?

- A. $4x^4 + x^3 - 3x^2 + 6x - 43$
- B. $-4x^4 + x^3 - 5x^2 - 10x - 43$
- C. $4x^4 - x^3 + 5x^2 + 10x + 19$
- D. $4x^4 - x^3 + 5x^2 - 10x - 19$

19. Multiply the negative of a number by seven less than three times the number.

- A. $4n^2$
- B. $-3n^2 + 7n$
- C. $-3n^2 + 7$
- D. $-4n^2 + 8n$

- A. A
- B. B
- C. C
- D. D

20. Subtract:

$$14x - (-4 + 32x + 12x^3 + 16x^2)$$

A. $-12x^3 - 16x^2 - 18x + 4$

B. $12x^3 + 16x^2 - 18x - 4$

C. $12x^3 - 16x^2 - 32x - 18$

D. $12x^3 - 16x^2 - 32x - 18$

21. What is the value of N in the given statement?

$$5 \times (7.4 + 8.4) = N$$

A. 77

B. 84

C. 79

D. 20.8

22. Round to the nearest cent when necessary.

Which of the following is the best price?

A. 20 for \$2.00

B. 18 for \$1.98

C. 25 for \$3.00

D. 22 for \$2.86

23. Find the value of x in the following proportion.

$$\frac{3}{9} = \frac{7}{x}$$

A. 63

B. 19

C. 27

D. 21

24. In a hockey game, Wayne scored 15% of the team's goals.

If Wayne scored 5 goals, which equation could be used to find out the number of points scored by the whole team?

- A. $x/15 = 5/100$
- B. $15/100 = x/5$
- C. $15/x = 5/100$
- D. $15/100 = 5/x$

25. Solve for x.

$$6 - x = -10 + 7$$

- A. 9
- B. $-17/6$
- C. 11
- D. -23

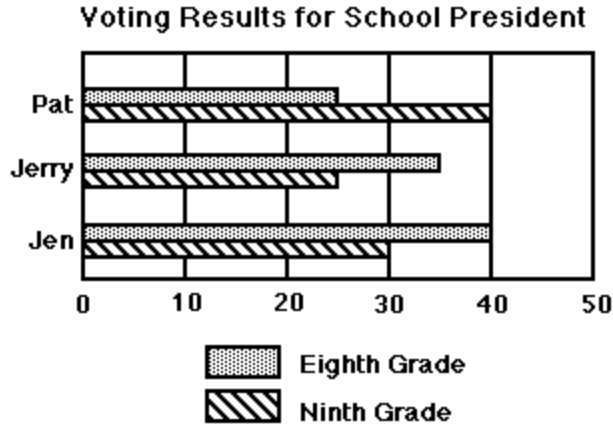
26. Mark weighs 60 more pounds than Dave. Dave weighs twice as much as Megan. Megan weighs 120 pounds. How much does Mark weigh?

- A. 300 pounds
- B. 180 pounds
- C. 120 pounds
- D. 240 pounds

27. Average the following numbers: 100, 99, 81, 99, 86.

- A. 465
- B. 5
- C. 232
- D. 93

28. Assuming no student voted more than once, how many ninth grade students voted in the election?



- A. 40 students
 B. 110 students
 C. 100 students
 D. 95 students
29. Two-hundred people were interviewed on what they like to do on the weekends. The circle graph represents the results of the interviews.



How many people said that they like to go to the beach or to a park on the weekends?

- A. 80 people
 B. 40 people
 C. 160 people
 D. 50 people

30. Use the graph to answer the question.



How many more video games were sold in June than in January?

- A. 50 video games
 - B. 30 video games
 - C. 20 video games
 - D. 10 video games
31. What is the mean of the group of numbers?
- 5, 8, 11, 12, 18, 0
- A. 54
 - B. 10.8
 - C. 0
 - D. 9
32. At a restaurant there are four appetizers, ten main courses, and five desserts to choose from.
- How many different combinations of appetizers, main courses, and desserts are there?
- A. 200 combinations
 - B. 50 combinations
 - C. 40 combinations
 - D. 8 combinations

33. Mike conducted a poll to see how many people liked the food served in the cafeteria. In the poll, Mike found that 13 of the 125 people polled liked the food.

If there are 700 people in the school, how many people can Mike expect to like the food?

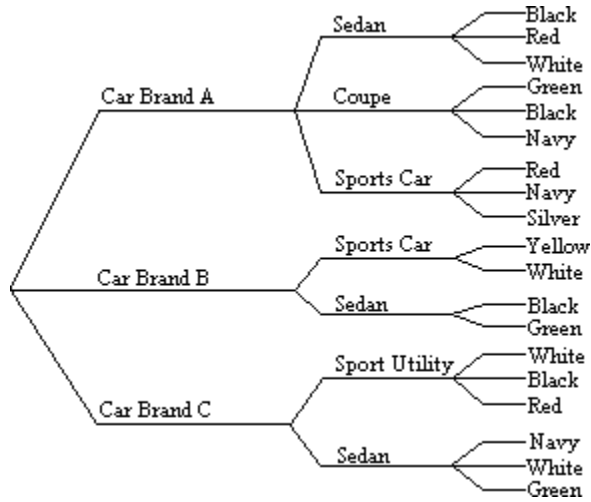
- A. 73 people
 - B. 70 people
 - C. 588 people
 - D. 5.6 people
34. Use the chart to answer the question.

	Math Books	Spelling Books	Reading Books	Science Kits	Computers	TV VCRs
Room A	10	22	13	5	1	0
Room B	27	18	19	9	2	1
Room C	19	19	27	16	3	2
Room D	20	15	19	2	1	0
Room E	13	16	21	9	1	0
Room F	15	19	30	15	2	1

How many science kits are there in rooms A, B, C, and D?

- A. 32 science kits
- B. 46 science kits
- C. 55 science kits
- D. 56 science kits

35. The following tree diagram represents the cars that are available at a particular dealership. Claire wants a white car. Which of the following is an option?



- A. Brand A Sports Car
 B. Brand B Sedan
 C. Brand A Coupe
 D. Brand B Sports Car
36. $(8.9 - 0.43) - (4.0 + 2.33) =$
- A. 3
 B. 10.14
 C. 6.8
 D. 2.14
37. Select the symbol which best replaces the question mark (?).
- $(89.734 \times 100) \div 0.1$? $179,468 \div 0.2$
- A. =
 B. >
 C. <

38. Every Saturday Owen bikes 33.8 miles and runs 4.5 miles. Every Sunday Frank bikes 25.7 miles and runs 6.8 miles. Every Saturday Celia bikes 22.9 miles and every Sunday she runs 9 miles.

Last month there were 4 Saturdays and 5 Sundays. Who completed the greatest number of miles last month?

- A. Owen
B. Frank
C. Celia
D. They all biked and ran the same number of miles.
39. Linda wrote $\frac{8}{11}$ of her paper on Sunday night. She wrote $\frac{1}{8}$ on Monday night. How much of her paper has she written?

- A. $\frac{9}{19}$ of her paper
B. $\frac{9}{11}$ of her paper
C. $\frac{75}{88}$ of her paper
D. $\frac{7}{3}$ of her paper

40. Everett made $8\frac{5}{6}$ liters of punch. Shawn made $11\frac{7}{8}$ liters of punch.

How many liters of punch did Everett and Shawn make in all?

Reduce the answer to lowest terms.

- A. $19\frac{17}{24}$ liters of punch
- B. $20\frac{17}{24}$ liters of punch
- C. $19\frac{12}{24}$ liters of punch
- D. $19\frac{12}{48}$ liters of punch
41. Haden bought $3\frac{3}{4}$ quarts of paint to paint picture frames. If each frame takes $\frac{5}{8}$ of a quart of paint, how many frames can Haden paint?
- A. $3\frac{1}{8}$ frames
- B. $2\frac{11}{32}$ frames
- C. $\frac{1}{6}$ of a frame
- D. 6

42. Bud has $\frac{7}{10}$ of a cake left. Two of his friends are over for dessert. Estimate how much cake each of them, including Bud, will get.

A. $\frac{1}{2}$ of the cake

B. $\frac{1}{4}$ of the cake

C. $\frac{3}{4}$ of the cake

D. $1\frac{1}{4}$ of the cake

43. Reduce the answer to the lowest terms.

$$\left(\frac{5}{9} + 6\frac{2}{5}\right) - \left(5\frac{7}{15} - 2\frac{1}{3}\right)$$

A. $4\frac{11}{30}$

B. $10\frac{4}{45}$

C. $3\frac{37}{45}$

D. $\frac{51}{45}$

44. Reduce the answer to the lowest terms.

$$\left(7 \div \frac{3}{4}\right) + 2\frac{1}{8} = ?$$

A. $11\frac{12}{24}$

B. $11\frac{11}{24}$

C. $11\frac{11}{23}$

D. $11\frac{12}{23}$

45. Matt made $7\frac{2}{5}$ cookies. His brother ate $5\frac{3}{8}$ cookies. How many cookies are left?

Reduce your answer to lowest terms.

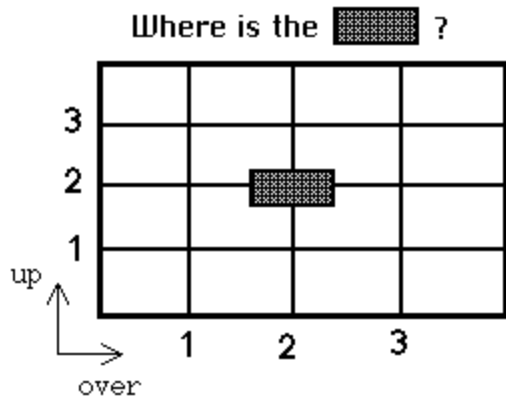
A. $2\frac{1}{3}$ cookies

B. $2\frac{16}{40}$ cookies

C. $2\frac{1}{40}$ cookies

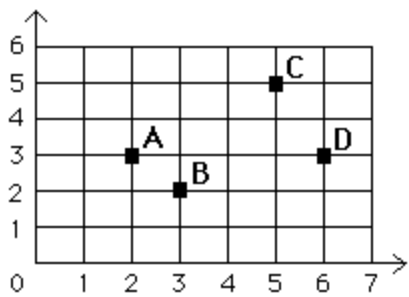
D. $2\frac{2}{5}$ cookies

46.



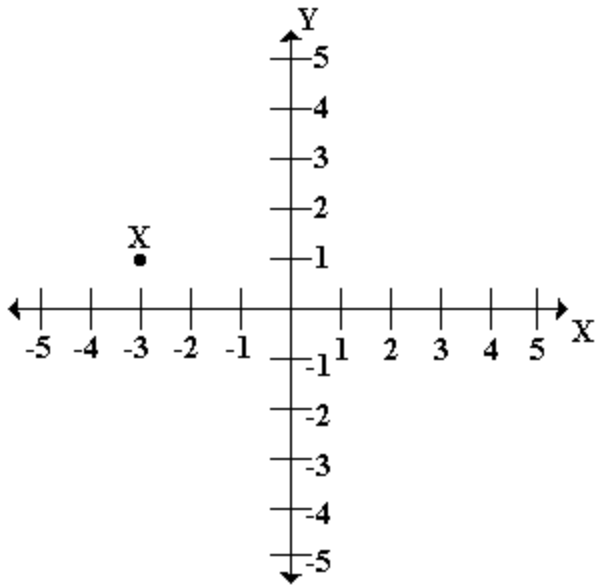
- A. over 3, up 2
- B. over 2, up 1
- C. over 1, up 3
- D. over 2, up 2

47. What point has the ordered pair (6,3)?



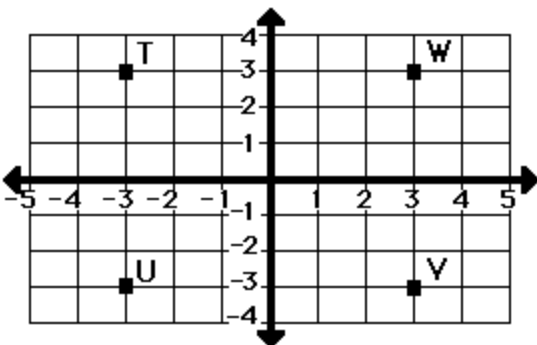
- A. Point A
- B. Point B
- C. Point C
- D. Point D

48. What are the coordinates of point X?



- A. (1, -3)
- B. (3, 1)
- C. (-1, -3)
- D. (-3, 1)

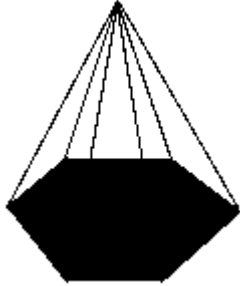
49. What is the ordered pair for point T?



- A. (3, -3)
- B. (3, 3)
- C. (-3, 3)
- D. (-3, -3)

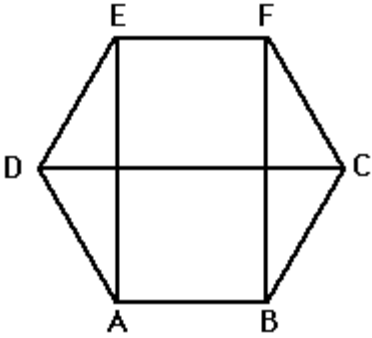
50. Which choice best completes the sentence?
A parallelogram is a quadrilateral with...
- A. all sides the same length.
 - B. opposite sides parallel and congruent.
 - C. only one pair of parallel sides.
 - D. has all right angles.

51. What is the name of the figure?



- A. hexagonal pyramid
 - B. pentagonal pyramid
 - C. hexagonal prism
 - D. pentagonal prism
52. Which choice best completes the statement?
A hexagon is...
- A. a polygon with four sides.
 - B. a polygon with six sides.
 - C. a polygon with eight sides.
 - D. a polygon with ten sides.

53. What type of polygon is ABCFED?

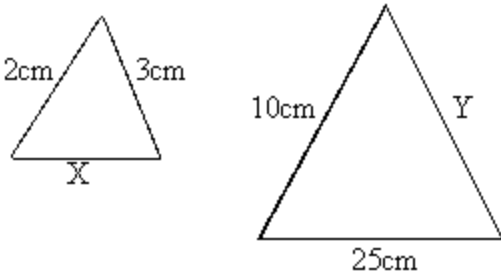


- A. pentagon
- B. hexagon
- C. octagon
- D. decagon

54. A _____ is a quadrilateral with both pairs of opposite sides parallel and four right angles.

- A. trapezoid
- B. parallelogram
- C. rhombus
- D. rectangle

55. The following triangles are similar. What is the value of X?

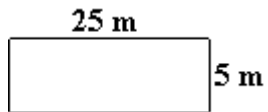


- A. 0.8 cm
- B. 5 cm
- C. 125 cm
- D. 1.25 cm

56. What is the area of a circle with a radius equal to 9 meters?

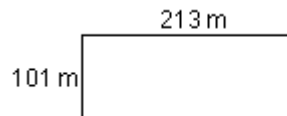
- A. 25.8 square meters
- B. 81 square meters
- C. 56.52 square meters
- D. 254.34 square meters

57. Find the area of the following figure.



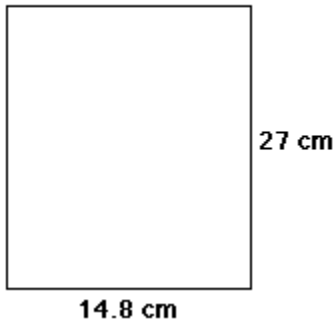
- A. 60 square meters
- B. 30 square meters
- C. 130 square meters
- D. 125 square meters

58. What is the area of this figure?



- A. 21,513 square meters
- B. 314 square meters
- C. 628 square meters
- D. 10,756 square meters

59. Find the area:

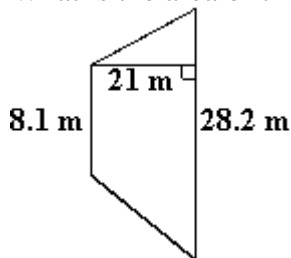


- A. 83.6 square centimeters
- B. 41.8 square centimeters
- C. 199.8 square centimeters
- D. 399.6 square centimeters

60. What is the height of a rectangle that has an area equal to 30.25 square meters and a width equal to 5.5 meters?

- A. 15.125 meters
- B. 24.75 meters
- C. 5.5 meters
- D. 2.75 meters

61. What is the area of the trapezoid?



- A. 10.877 square meters
 - B. 381.15 square meters
 - C. 592.2 square meters
 - D. 2,398.41 square meters
62. What is the area of a triangle with a base equal to 5.5 feet and a height equal to 10 feet?
- A. 110 square feet
 - B. 55 square feet
 - C. 7.42 square feet
 - D. 27.5 square feet

63. Find the circumference of the circle.



Hint: $C = \pi \times d$
 $\pi = 3.14$

- A. 15.857 in
B. 31.714 in
C. 63.428 in
D. 13.24 in
64. The circumference of a circle is 28.26 meters.
What is the diameter of the circle?
- A. 3.14 m
B. 0.11 m
C. 88.74 m
D. 9 m
65. Fill in the blank.
A thermometer is used to measure _____.
- A. the mass of an object
B. atmospheric pressure
C. the weight of an object
D. the temperature
66. 5,280,000 ft = ? miles
- A. 10
B. 1,000
C. 100
D. 10,000
67. Which of the following would most likely be measured in milliliters?
- A. water in a lake
B. gasoline in a tank
C. juice in a glass
D. toys in a box

68. Solve:

$$2 \text{ kg} = ? \text{ mg}$$

Hint:

1 kilogram (kg) = 1,000 grams (g)

1 gram (g) = 1,000 milligrams (mg)

- A. 0.002
- B. 0.001
- C. 2,000,000
- D. 4,000

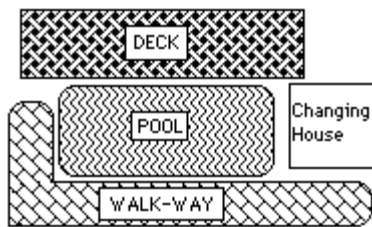
69. Which of the following is the best estimate for how much a person weighs?

- A. kilograms
- B. milligrams
- C. grams
- D. decigrams

70. Which unit of measure would be best to use when expressing the length of your car?

- A. inches
- B. feet
- C. centimeters
- D. miles

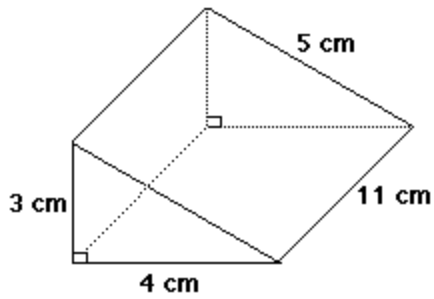
71. This is the layout of the McDougal's backyard. The scale is 1 centimeter to 5 meters. On the layout, the perimeter of the walkway is 26 centimeters.



What is the actual perimeter of the walkway?

- A. 31 meters
- B. 65 meters
- C. 195 meters
- D. 130 meters

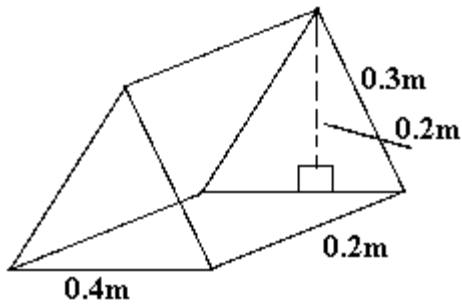
72. Find the surface area of the figure.



- A. 138 square centimeters
 B. 144 square centimeters
 C. 660 square centimeters
 D. 179 square centimeters
73. A cylinder has a diameter of 2 meters. The height of the cylinder is 12 meters.

What is the surface area of the cylinder?

- A. 87.92 square meters
 B. 157 square meters
 C. 100.48 square meters
 D. 81.64 square meters
74. What is the surface area of the figure?



- A. 0.18 square meters
 B. 0.28 square meters
 C. 0.36 square meters
 D. 0.32 square meters

75. Jorge built a pyramid with a square base. The area of the base is 36 square meters. The height of the triangular faces is 20 meters.

What is the surface area of Jorge's pyramid?

- A. 720 square meters
- B. 240 square meters
- C. 432 square meters
- D. 276 square meters

76. On Tuesday, the temperature was 1°C . The temperature dropped 2°C on Wednesday.

What was the temperature on Wednesday?

- A. -3°C
- B. 1°C
- C. 3°C
- D. -1°C

77. Frank waited in line for 231 minutes.

How many hours did Frank wait in line?

- A. 3 hours
- B. 2 hours 31 minutes
- C. 3 hours 9 minutes
- D. 3 hours 51 minutes

78. Which of the following would most likely be used to measure the length of a swimming pool?

- A. meters
- B. kilometers
- C. centimeters
- D. millimeters

79. Lewis has 36 inches of rope.

How many feet does this make?

- A. 18 ft
- B. 36 ft
- C. 2 ft
- D. 3 ft

80. Solve:

$$6.2 \text{ cm} = ? \text{ mm}$$

Hint:

1 meter = 10 decimeters (dm)

1 meter = 100 centimeters (cm)

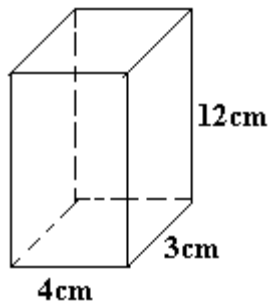
1 meter = 1,000 millimeters (mm)

- A. 6,200
- B. 0.62
- C. 6.2
- D. 62

81.
$$\begin{array}{r} 3 \text{ yd} \quad 1 \text{ ft} \quad 8 \text{ in} \\ + 2 \text{ yd} \quad 2 \text{ ft} \quad 2 \text{ in} \\ \hline \end{array}$$

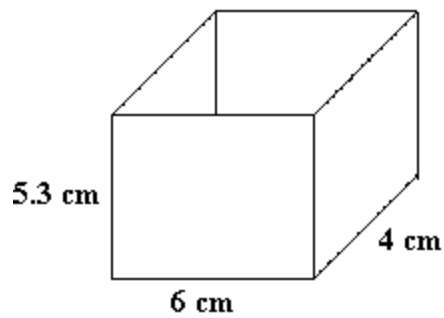
- A. 8 ft 10 in
- B. 5 yd 3 ft
- C. 6 yd 10 in
- D. 6 yd 18 in

82. What is the volume of this figure?



- A. 76 cubic centimeters
- B. 144 cubic centimeters
- C. 1,728 cubic centimeters
- D. 19 cubic centimeters

83. Find the volume of the block.



- A. 45.9 cubic centimeters
B. 84 cubic centimeters
C. 15.3 cubic centimeters
D. 127.2 cubic centimeters
84. A building has the shape of a rectangular prism. The length is 12 dam, the width is 9 dam, and the height is 15 dam.
- What is the volume of the building?
- A. 5,086.8 cubic dekameters
B. 540 cubic dekameters
C. 1,620 cubic dekameters
D. 423 cubic dekameters
85. Which of the following statements is true?
- A. $19.9 < 20.1$
B. $5.01 > 5.1$
C. $7.25 < 7 \frac{1}{4}$
D. $\frac{1}{2} > \frac{2}{4}$
86. Which of the following is another way to write $\frac{19}{25}$?
- A. 1.31%
B. 76%
C. 13.2%
D. 48%

87. Find another way to write $\frac{1}{4}$.

- A. 0.04
- B. 2.5
- C. 0.4
- D. 0.25

88. Which of the following is another way to write 1.20?

- A. $1\frac{4}{5}$
- B. $1\frac{1}{5}$
- C. $1\frac{20}{10}$
- D. $1\frac{1}{2}$

89. Find 50% of 88.

- A. 44
- B. 38
- C. 440
- D. 4.4

90. Avi wants to buy a skateboard. A local store is having a sale. If Avi buys a skateboard and wheels from the store he will receive a 33% discount. The skateboard Avi wants to buy costs \$243.00 and the wheels he wants to buy cost \$53.00.

How much will Avi's discount be if he buys the skateboard and the wheels?

- A. \$97.68
- B. \$80.18
- C. \$162.81
- D. \$198.32

91. The price of a golf club is \$45.88. The state sales tax rate is 7%.

What is the total cost of the golf club?

- A. \$49.09
- B. \$42.67
- C. \$6.55
- D. \$3.21

92. It takes Janet 10 minutes to walk $\frac{1}{2}$ of a mile. How much time will Janet spend walking this week if she walks 5 miles every day (Sunday - Saturday)? Choose the best answer.
- A. 107,100 seconds
 - B. 1 day, 5 hours, and 45 minutes
 - C. 29 hours and 45 minutes
 - D. 700 minutes
93. $12 + (-17) =$
- A. -5
 - B. 5
 - C. -29
 - D. 29
94. $(-12 \times 3) \div (6 \times 2) =$
- A. 3
 - B. -2
 - C. -3
 - D. 2
95. $-(8 \times 8) \div (4 \times -4) =$
- A. 64
 - B. -64
 - C. 4
 - D. -4
96. $(-8 + 4) \times (3 - -6) =$
- A. 36
 - B. 12
 - C. -36
 - D. -12

97. There are several students in the eighth grade that have dogs. If you take the number of dog owners, add -2, divide by 2, and add -6, the result is 13.

How many students own dogs?

- A. 34 students
 - B. 13.5 students
 - C. 40 students
 - D. 1.5 students
98. $18 - 22 =$
- A. - 30
 - B. 30
 - C. 4
 - D. - 4
99. Which of the following statements is true?
- A. -14 is greater than -7
 - B. 0 is greater than 7
 - C. -7 is less than 14
 - D. 28 is less than -14
100. At the beginning of the month, Leona's checking account had \$2,344.98 in it. Since then, she has written checks for \$525.00, \$33.21, \$18.91, \$125.00, and \$5.13. How much money is in her account now?
- A. \$2,002.23
 - B. \$1,878.48
 - C. \$1,761.48
 - D. \$1,637.73
101. Amy spends twice as much on her house payment as she does on her car payment. Her car payment is 22% of her monthly income of \$1,719.76. She spends \$80.00 a month on gasoline for her car and \$325.00 a month on utility bills. How much money does Amy spend on her house payment?
- A. 22%
 - B. 44%
 - C. \$378.35
 - D. \$756.69

102. The price of a pair of linen pants is \$109.67. The sales tax rate is 6.75%.

After tax, what is the final price of the pants?

- A. \$7.40
- B. \$117.07
- C. \$183.70
- D. \$74.03

103. Wendy went to the pre-season sale at a boutique and bought a suit for \$229.90 that was regularly \$310.00 and some dress shoes for \$89.90 that were regularly \$115.00. She also bought a bottle of perfume for \$45.00. How much money did Wendy save?

- A. \$150.20
- B. \$364.80
- C. \$105.20
- D. \$425.00