Directions: Answer the following question(s).

1 Which of the following are equivalent expressions? Select all that apply.

A.   7 - w = w - 7

B. $7h^4 = 7 \times h + h + h + h$

C.   7c + 3 = c + c + c + c + c + c + c + 3

D. $k + k + k + k + d \times d = 4k + d^2$

E.   x + 5 = 5 + x

2 On a bicycle Jack can travel 28 miles in 4 hours.

What are the two ways to represent the unit rate for this situation?

A.   28 miles per 4 hours

B.   4 hours per 28 miles

C.   7 miles per hour

D.   4 miles per hour

E.   1/7 hours per mile

F.   7 hours per mile

3 How many 3/4 ounce servings are in 6 ounces of honey?

A.   3/24

B.   4 1/2

C.   8

D.   1/8

E.   None of the above

4 Given the number line below, select all statements that are true.
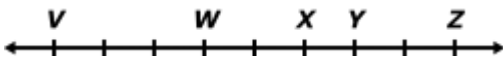
A.   Y is less than Z

B.   X is greater than Y

C.   Z is less than V

D.   X is greater than W

E.   V is greater than W

F.   W is greater than Z

5 Which of the following situations can be solved by using the equation 6t = 186? Select all that apply.

A.   It takes Mr. Martinez t number of minutes to grade 1 math test. If Mr. Martinez has 6 tests to grade, he will work for a total of 186 minutes.

B.   A painter is calculating the amount of paint he used on a project. He knows that he used 6 gallons of paint every day for 186 days, so he used a total of t gallons of paint.

C.   Thomas won $186 in a contest. He decided to give his sister $6, and now Thomas has t dollars left from his winnings.

D.   Mary's bookshelf can hold a total of 186 books. Mary has 6 books on the top shelf, so she will be able to fit t number of books on the bottom shelf.

E.   An elephant eats 6 tons of food every day. After t number of days, the elephant will have eaten 186 tons of food.

6 The skating rink charges $55 to reserve the place and then $13 per person.

What is the equation that represents this situation and how much would it cost for 15 people?

A.   t = 83x and $1245

B.   t = 13x and $195

C.   t = 13x + 55 and $250

D.   t = 15x + 55 and $250

E.   None of the above

Directions: Answer the following question(s).

7 │ Which of these inequalities is represented by the number line below, and why?
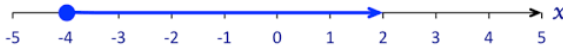
A. x   -4, because the filled dot means it is included in the solution

B. x   -4, because the filled dot means it is included in the solution

C. x < -4, because the filled dot mean it is not included in the solution

D. x > -4, because the filled dot mean it is not included in the solution

E. None of the above

8 │ Mrs. Peranick donated a total of 40 hot dogs and 60 bags of chips for the class picnic. Each student will receive the same amount of refreshments. There will be no left overs.

What are the greatest number of students?

How many bags of chips will each student receive?

How many hot dogs will each student receive?

Select all statements that answer the questions above.

A. The greatest number of students is 10.

B. The greatest number of students is 15.

C. The greatest number of students is 20.

D. Each student received 4 hot dogs.

E. Each student received 5 hot dogs.

F. Each student recieved 2 hot dogs.

G. Each student received 3 bags of chips.

H. Each student received 5 bags of chips.

I. Each student received 6 bags of chips.

9 │ Select all equations that have x = 4.73 as a solution.

A. 3 • x = 141.9

B. x • 8 = 37.84

C. x + 45.89 = 50.62

D. 740 - x = 2.67

10 │ Select all expressions that are equivalent to 4(3w + 4p)

A. 12w + 16p

B. 3(4w + 16p)

C. 4w + 15p + 8w + p

D. 2(6w + 8p)

E. 8p + 12w

11 │ Write the algebraic expression that represents the difference of "b" cubed and thirteen, multiplied by six.

A. 3b - 13 • 6

B. 6 (3b - 13)

C. b^3 - 13 • 6

D. (b^3 - 13) • 6

E. None of the above

12 │ What is the value of:

4^3 - 24 ÷ 4 • 3 + 13

A. 43

B. 59

C. 23

D. 49

E. 75

F. None of the above

Directions: Answer the following question(s).

13 Write an equation that is represented by the table.

Week (w)	Number of multiplication facts memorized (m)
1	3
2	6
3	9

A. m = w + 3

B. w = 3m

C. w = m + 2

D. m = 3w

E. None of the above

14 Stephanie paid $18 dollars for 8 pastries. How many pastries could she buy for $49.50?

A. 22

B. 16

C. 24

D. 18

E. None of the above

15 Taylor is making a beaded necklace for her mom. She plans to use less than 7 red beads (r) and more than or equal to 13 blue beads (b) in the necklace.
Which inequalities are represented from these statements?

A. r > 7

B. 7 > r

C. r   7

D. b   13

E. b > 13

F. 13 > b

16 The sixth graders at Baird Middle School are selling bags of popcorn and candy bars for a fundraiser. The ratio of the total amount of popcorn sold to the total amount of all snacks sold is 7:13. What is the ratio of candy bars sold to popcorn sold?

A. 7:13

B. 6:13

C. 7:6

D. 6:7

E. 6:13

F. None of the above

17 Which of the following solutions are represented correctly by the number line?

A. Owen's suitcase weighs less than 5 kilograms.

B. Owen's suitcase weighs more than 5 kilograms.

C. Owen's suitcase weighs more than or equal to 5 kilograms.

D. Owen's suitcase weighs less than or equal to 5 kilograms.

E. None of the above

18 Ani's Donut Shoppe prices their donuts using a constant rate of $11 for every dozen donuts.
Which of the following prices matches this rate?

A. $22 for 36 donuts

B. $24 for 36 donuts

C. $27 for 36 donuts

D. $33 for 36 donuts

E. $36 for 36 donuts

F. None of the above

Directions: Answer the following question(s).

19 | Which of the following contains one constant?

A. x + 3

B. 3 (x + 3)

C. 3 (x + 3y)

D. c + c + c

E. c • c • c

F. $c^2 + 8 + 7c$

20 | Jenna is creating a budget, and she has made a table listing her account balances at some stores. Jenna also owes her parents $51.13. Jenna claims that the amount she owes to her parents is lower than any of the account balances at the various stores. Which account balances prove that Jenna's claim is false?
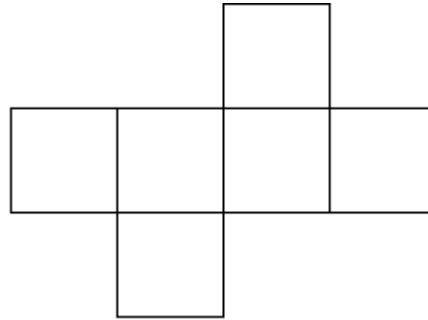
A. Store A: Account Balance -$65.00

B. Store B: Account Balance -$35.00

C. Store C: Account Balance -$45.00

D. Store D: Account Balance -$55.00

E. Store E: Account Balance -$51.03

F. Store F: Account Balance -$51.37

21 | What is the length of BC?

Point	Coordinate
A	(2, -5)
B	(-4, -5)
C	(-4, 8)
D	(2, 8)

A. 2

B. 6

C. 8

D. 4

E. 13

F. None of the ablove

22 | What is the area of the net if the length of one side of a square is 4.5 cm?

A. 54 square cm

B. 108 square cm

C. 121.5 square cm

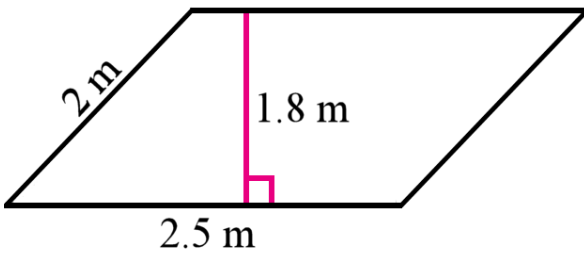D. 1215 square cm

E. 12.15 square cm

F. None of the above

23 | What is the area of the triangle?
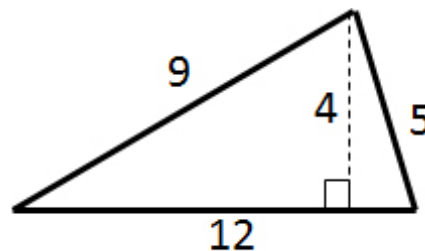
A. 20 units^2

B. 24 units^2

C. 26 units^2

D. 30 units^2

E. 18 units^2

F. None of the above
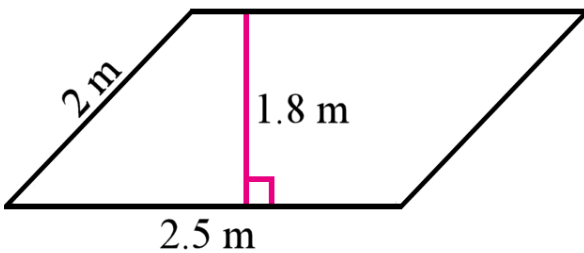
Directions: Answer the following question(s).

24 What is the area of the parallelogram?

A.   5 square meters

B.   3.6 square meters

C.   2.5 square meters

D.   4.5 square meters

E.   6.3 square meters

F.   None of the above
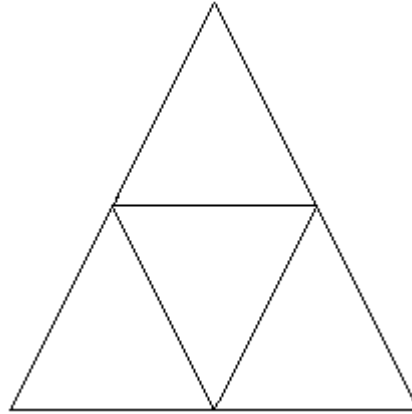
25 What is the perimter of the parallelogram?

A.   9 meters

B.   12.6 meters

C.   8.6 meters

D.   4.5 meters

E.   6.3 meters

F.   None of the above

26 The net for a triangular pyramid is shown to the right.
Each face of this pyramid is an equilateral triangle with a side length of 10.5 cm and a height of 13 cm.
What is the surface area of the triangular pyramid?

A.   136.5 square cm

B.   156 square cm

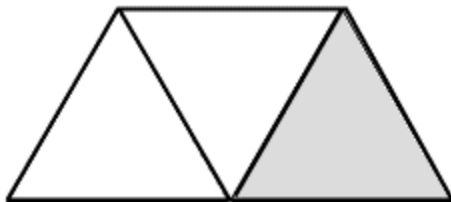C.   273 square cm

D.   546 square cm

E.   None of the above

Directions: Answer the following question(s).

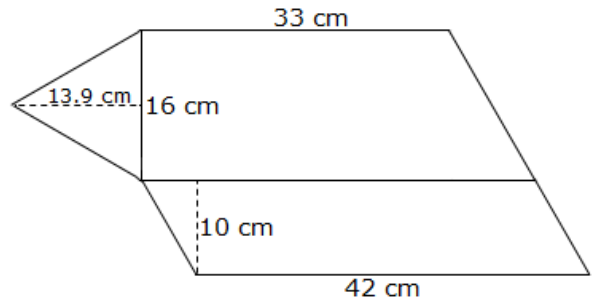**27** Find the area of the trapezoid?
If a = 7.4, b = 13.8, and h = 11.6
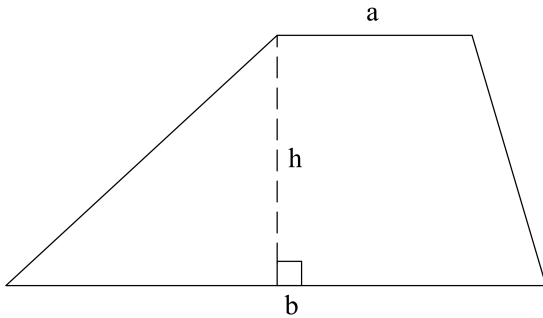
A.   122.96 units²

B.   227.26 units²

C.   1184.592 units²

D.   131.1 units²
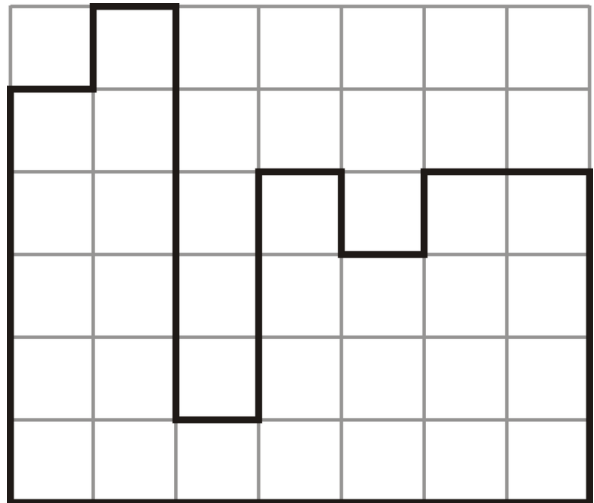
E.   93.98 units²

F.   None of the above

28
If the area of the shaded triangle is $14\frac{3}{4}$ in²,

what is the area of the trapezoid?

Write your answer as fraction with no units.

29 Find the area of the composite figure

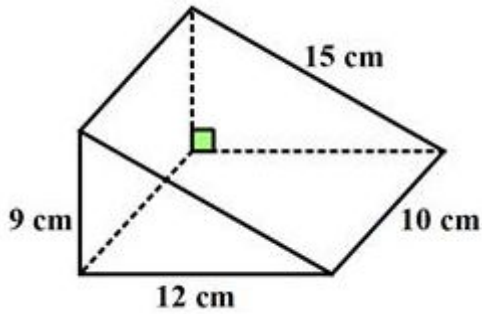Write your answer as a decimal without units.

.

30 Find the area of the composite figure.
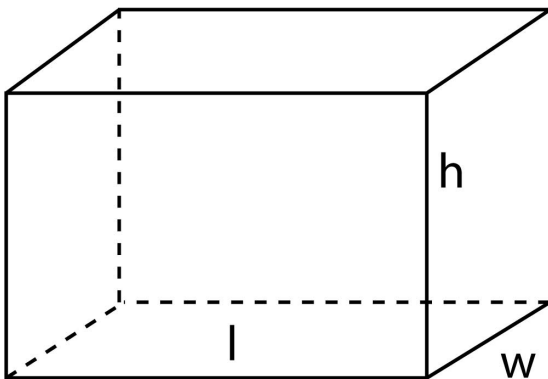
Write the answer with no units.

Directions: Answer the following question(s).

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31 | Find the surface area of triangular prism.
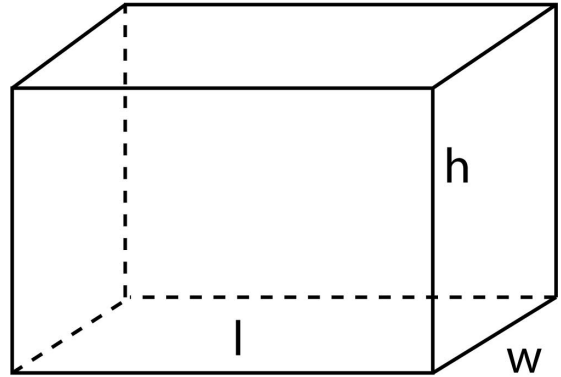
Write answer without units.

15 cm

9 cm   10 cm

12 cm

☐

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32 | Find the volume of the rectangular prism.

$$l = 2\frac{1}{4}, w = 3, \text{ and } h = 1\frac{1}{2}$$
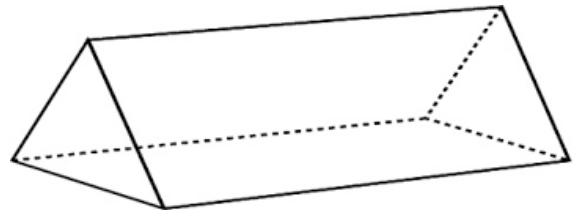
Write you answer as a fraction without units.

h

l   w

☐

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33 | Find the volume of the rectangular prism.

$$l = 2\frac{1}{4}, w = 3, \text{ and } h = 1\frac{1}{2}$$

h

l   w

How many $\frac{1}{4}$ by $\frac{1}{4}$ by $\frac{1}{4}$ cubes can fit in the rectangular prism above?

☐

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34 | What is the name of this figure?

A.   Square Pyramid
B.   Triangular Pyramid
C.   Rectangular Prism
D.   Triangular Prism
E.   Cube
F.   None of the above