1.

Which statement about a unit cube is true?

A. It is a cube with a base perimeter of 1 unit.
B. It is a cube with a side length of 1 square unit.
C. It can be used to measure the volume of a rectangle.
D. It can be used to measure the volume of a rectangular prism.

2.

Look at the table.

$1.973 \times 10^1 = 19.73$
$1.973 \times 10^2 = 197.3$
$1.973 \times 10^3 = 1{,}973.0$
$1.973 \times 10^4 = 19{,}730.0$

Based on the pattern, what must 1.973 be multiplied by to get 19,730,000.0?

A. 10^5
B. 10^6
C. 10^7
D. 10^8

3.

At Wildlife Junction Petting Zoo, $\frac{2}{3}$ of the zoo is used for animal exhibits, $\frac{1}{4}$ of the zoo is used for the children's play area, and the remaining space is used for the ticket counter and the food court.

Does it make sense to say that $\frac{3}{7}$ of the zoo is used for the animal exhibits and the children's play area combined?

A. It makes sense because $\frac{3}{7}$ is greater than $\frac{1}{4}$.
B. It does not make sense because $\frac{3}{7}$ is less than $\frac{2}{3}$.
C. It does not make sense because $\frac{2}{3}$ is close to 1 and $\frac{1}{4}$ is close to $\frac{1}{2}$, so the sum should be close to $1\frac{1}{2}$.
D. It makes sense because $\frac{2}{3}$ is close to $\frac{1}{2}$ and $\frac{1}{4}$ is close to $\frac{1}{2}$, so the sum should be close to $\frac{1}{2}$.

4.

Input	Output A	Output B
1	2	4
2	4	8
3	6	12
4	8	16

Which set of rules was used to create this combined input-output table?

A.

Output A	Output B
Output = Input + 1	Output = (Input + 1) + 2

B.

Output A	Output B
Output = Input + 1	Output = (Input + 2) × 2

C.

Output A	Output B
Output = Input × 2	Output = (Input × 2) + 2

D.

Output A	Output B
Output = Input × 2	Output = (Input × 2) × 2

5.

Look at the inequality.

$$4.506 < \square$$

Which number belongs in the box to make this inequality true?

A. 4.5
B. 4.6
C. 4.05
D. 4.46

6.

Sasha measured 0.2467 decimeter of rain in one month. She correctly rounded that number to the nearest hundredth.

Which number is her answer?

A. 0.24
B. 0.246
C. 0.247
D. 0.25

7.

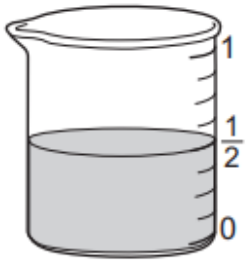
At a farm, $\frac{3}{5}$ of the total area is covered by a pumpkin patch and $\frac{1}{4}$ of the total area is covered by a cornfield.

What fraction of the total area of the farm is covered by the pumpkin patch and the cornfield combined?

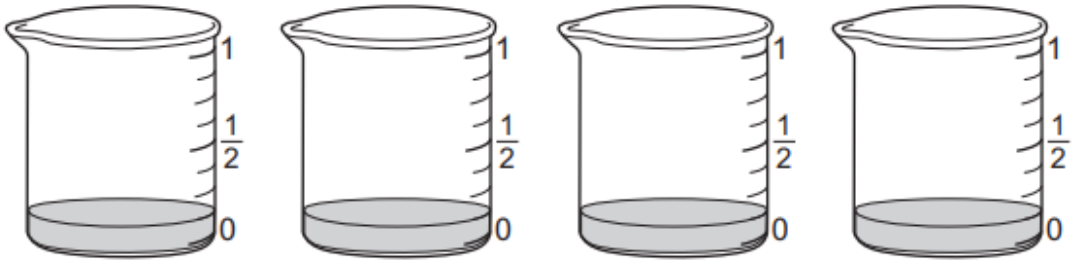
A. $\frac{4}{9}$
B. $\frac{5}{20}$
C. $\frac{12}{20}$
D. $\frac{17}{20}$

8.

The picture shows the amount, in liters, of a sugar solution that Adam prepared.



He poured equal amounts of the solution into 4 beakers as shown.



Which expression is equal to the amount, in liters, of sugar solution in each beaker?

A. $4 \div \frac{1}{8}$

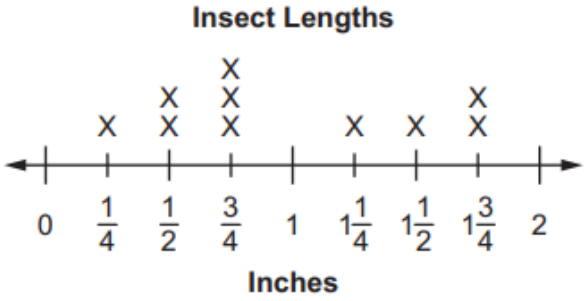
B. $\frac{1}{2} \div 4$

C. $4 \times \frac{1}{2}$

D. $\frac{1}{8} \times 4$

9.

Tina measures the lengths, in inches, of 10 insects. She records the lengths of the insects on this line plot. She adds the lengths of the 3 longest insects.



What is the total length, in inches, of the 3 longest insects?

A. $2\frac{1}{4}$ in.

B. 3 in.

C. $4\frac{1}{2}$ in.

D. 5 in.

10.

Edwin built a tower that is a rectangular prism with a height of 24 inches and a square base with side lengths of 4 inches each.

What is the volume, in cubic inches, of the tower? ($V = l \times w \times h$)

A. 6

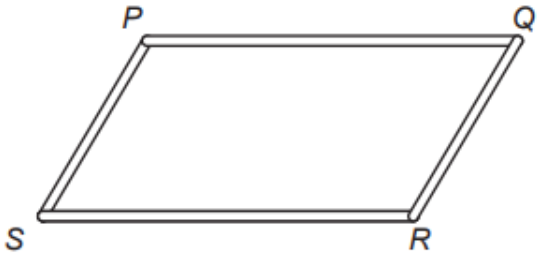
B. 32

C. 96

D. 384

11.

Tony uses two short straws of the same length and two long straws of the same length to form the figure shown.



Replacing the straw from *P* to *Q* with a shorter straw, Tony creates a new polygon. Which of these could be Tony's new figure?

A. square
B. rhombus
C. trapezoid
D. rectangle

12.

Part A

Which expression represents the calculation "subtract 1 from 7, then divide by 3"?

A. $7 - 1 \div 3$
B. $3 \div (7 - 1)$
C. $(7 - 1) \div 3$
D. $7 - (1 \div 3)$

13.

Part B

Which description is equivalent to 5 + (4 × 2)?

A. add 5 and 4, then multiply by 2
B. multiply 4 by 2, then add 5
C. multiply 5 by 2, then add 4
D. add 4 and 2, then multiply by 5

14.

The mass of a quarter is 5.67 grams, and the mass of a half dollar coin is 11.34 grams.

Part A

Select TWO numbers that, when rounded to the hundredths place, will each make the inequality shown true.

$$5.67 < \_\_\_\_$$

A. 5.609
B. 5.762
C. 5.665
D. 5.098
E. 5.677

15.

Part B

Which number rounded to the nearest tenth is less than 11.34 rounded to the nearest tenth?

A. 11.361
B. 11.283
C. 11.347
D. 11.249

16.

Greg wants to build a shed to hold his gardening tools. The shed must have a volume of at least 500 cubic feet but no more than 600 cubic feet.

Select THREE sets of dimensions that meet Greg's requirements for the volume of a shed.

($V = l \times w \times h$)

A. 6 feet wide, 9 feet long, 10 feet high
B. 7 feet wide, 8 feet long, 9 feet high
C. 10 feet wide, 6 feet long, 8 feet high
D. 9 feet wide, 9 feet long, 8 feet high
E. 8 feet wide, 8 feet long, 8 feet high
F. 9 feet wide, 8 feet long, 6 feet high

17.
On your paper, create three columns and write the number representations into the column that BEST describes it.

?

Less Than 12.032	Equal to 12.032	Greater Than 12.032

12.129

$(1\times10)+(2\times1)+\left(3\times\frac{1}{100}\right)+\left(2\times\frac{1}{1000}\right)$

twelve and thirty-two thousandths

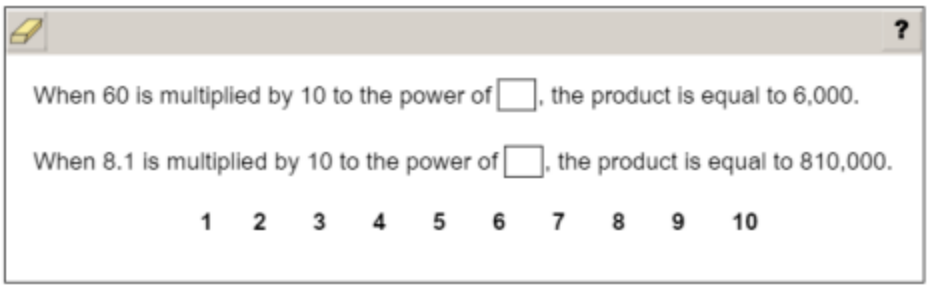
12.001

$(1\times10)+(2\times1)+\left(3\times\frac{1}{10}\right)+\left(2\times\frac{1}{100}\right)$

twelve and thirty-eight hundredths

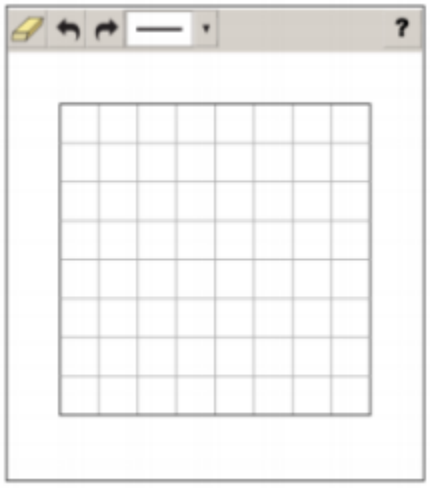
18.

Write a number into each box to make the two statements true.



19.

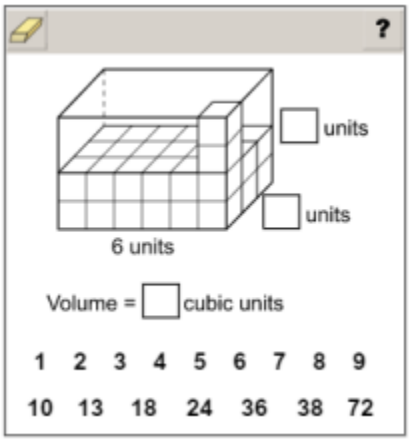
Jonah draws a shape that has four right angles, two sides with lengths of 3 units, and two sides with lengths of 5 units. Place line segments on the grid to create a shape that could be Jonah's shape.



20.

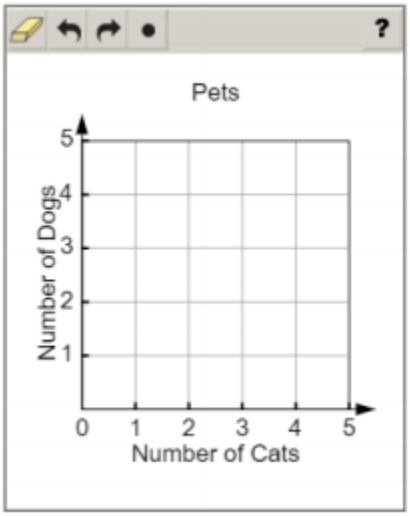
Brooke will completely fill a rectangular prism with unit cubes. The diagram shows the number of unit cubes she has already put inside the rectangular prism.

Write the number for each box to show the dimensions, in units, and the volume, in cubic units, of the rectangular prism when completely filled.



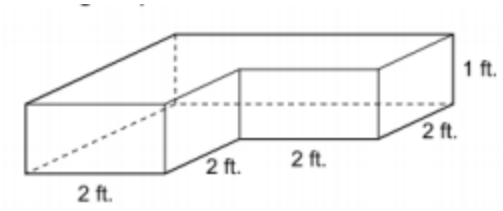
21.

Morgan has a total of 5 cats and dogs as pets. The number of cats Morgan has is 1 more than the number of dogs she has. Plot a point on a coordinate grid to represent the number of cats and the number of dogs that Morgan has as pets.



22.

Ms. Mailee has a fish tank made up of rectangular prisms as shown.



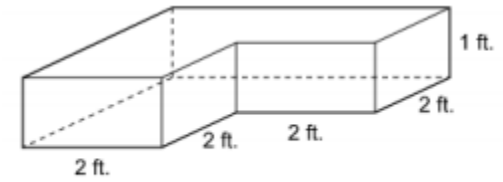
Part A

What is the volume, in cubic feet, of the fish tank?

(Volume = Length × Width × Height)

23.

Ms. Mailee has a fish tank made up of rectangular prisms as shown.

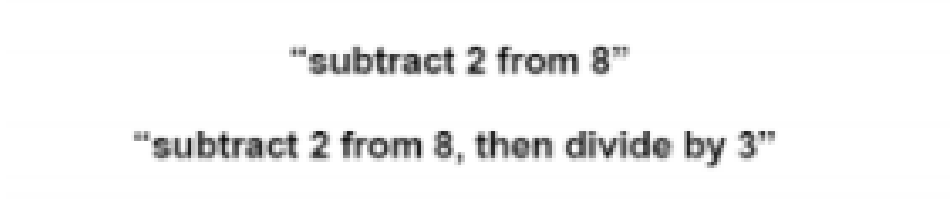


Part B

Ms. Diaz has a taller fish tank with the same base as Ms. Mailee's fish tank. The height of Ms. Diaz's fish tank is 2 feet. What is the volume, in cubic feet, of Ms. Diaz's fish tank?
(Volume = Length x Width x Height)

24.

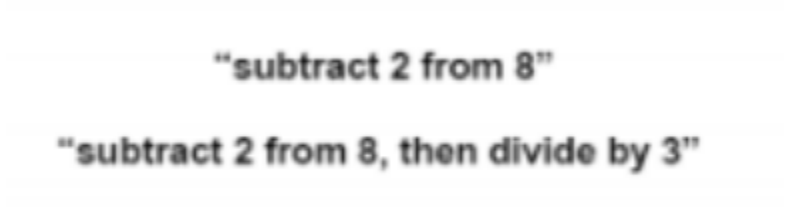
Two expressions are shown.



The value of the expression "subtract 2 from 8" is

A.1/2
B.1/3
C.2
D.3

25.

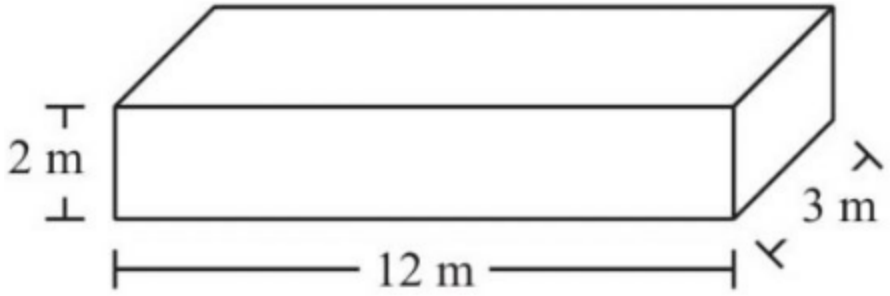


The value of the expression "subtract 2 from 8" is _____ the value of the expression "subtract 2 from 8, then divide by 3."

A. as great as
B. less than

26.

A box in the shape of a rectangular prism has the dimensions shown below.



What is the volume of the box?

A. 36 cubic meters
B. 60 cubic meters
C. 72 cubic meters
D. 84 cubic meters

27.

Which of the following inequalities is true?

A.0.37 < 0.3
B.0.3 > 0.298
C.0.298 < 0.2
D.0.2 > 0.37

28.

Cement is shipped in bags. Each bag weighs 80 pounds. A construction worker needs 1,250 pounds of cement to complete a job. What is the total number of bags of cement that should be shipped for the construction worker to complete the job?

A.14
B.15
C.16
D.17

29.

Steve has 3 cups of peanuts. He splits the 3 cups of peanuts into $\frac{1}{3}$-cup servings. What is the total number of $\frac{1}{3}$-cup servings of peanuts Steve has?

A.1
B.3
C.6
D.9

30.

Which of the following statements about quadrilaterals is **not** true?

A.Every square is also a rectangle.
B.Every trapezoid is also a rectangle.
C.Every rhombus is also a parallelogram.
D.Every rectangle is also a parallelogram.

31.

A scale rounds the weights of objects to the nearest tenth of a pound. What is 53,864 pounds rounded to the nearest tenth of a pound?

A.53.8 pounds
B.53.9 pounds
C.53.86 pounds
D.53.87 pounds

32.

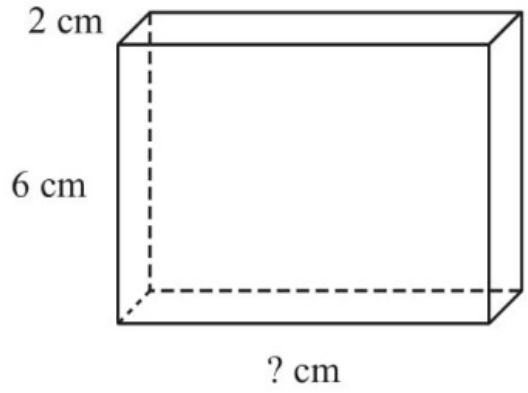
Silvia filled a watering can with 3.48 liters of water. She used 40 milliliters of water to water her cactus plants and 150 milliliters of water her rose plant. What is the total amount of water remaining in the watering can?

A. 158 milliliters
B. 329 milliliters
C. 1,580 milliliters
D. 3,290 milliliters

33.

A rectangular prism is shown below.

- The volume is 96 cubic centimeters
- The height is 6 centimeters.
- The width is 2 centimeters.



What is the length of the rectangular prism?

A.6 cm
B.8 cm
C.12 cm
D.32 cm

34.

The ordered pair (4,7) gives the location of a point on the coordinate plane. What is the first step to take in locating the point?

A.Starting at the origin, move 4 units to the right.
B.Starting at the origin, move 4 units to the left.
C.Starting at the origin, move 4 units up.
D.Starting at the origin, move 4 units down.

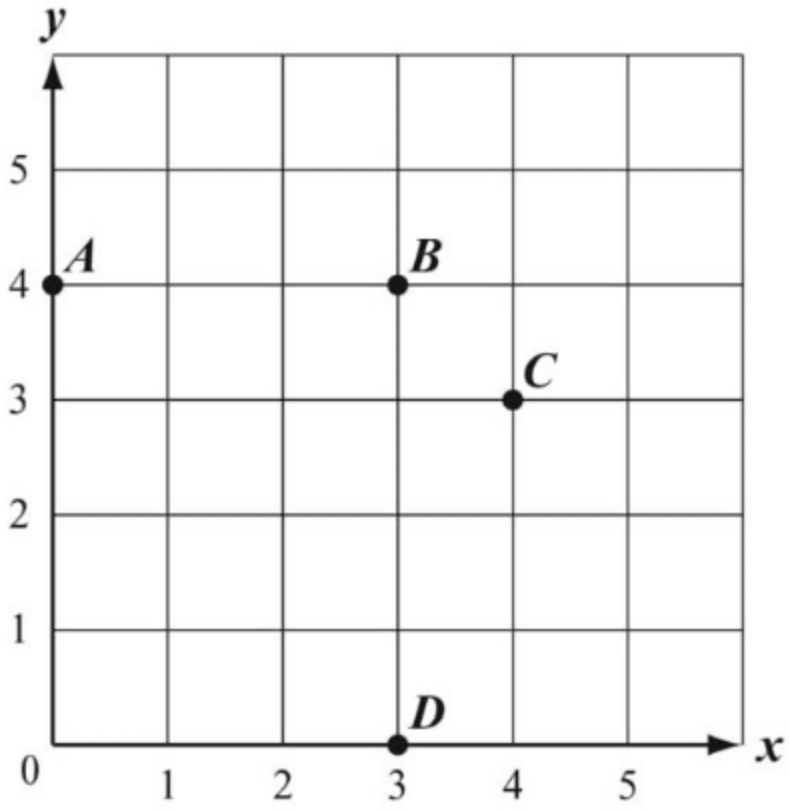
35.

Verndale had a total of 40.5 inches of rain this year. This year's total was 2.62 inches greater than last year's total. What was the total amount of rain that Verndale had last year?

A. 1.43 inches
B. 2.63 inches
C. 37.88 inches
D. 38.12 inches

36.

Points A, B, C, and D are shown on the coordinate grid below.



What point represents the ordered pair (3, 4)?

A. point A
B. point B
C. point C
D. point D

37.

A group of 5 campers used a total of 12 gallons of water on a camping trip. Each camper used the same amount of water. How many gallons of water did each camper use?

A. 1/12
B. 5/12
C. 2 2/5
D. 2 1/2

38.

The length of Eagle Trail is $6\frac{3}{5}$ miles.

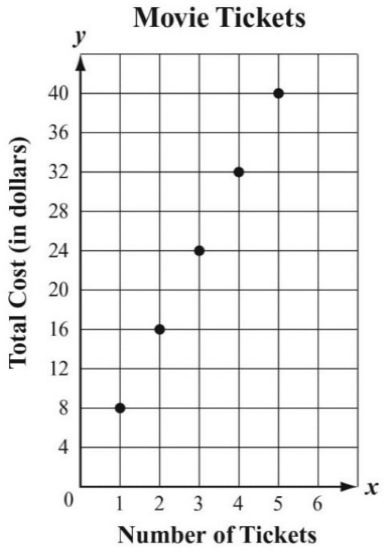
The length of Bear Trail is $2\frac{7}{10}$ miles.

What is the difference in length between Eagle Trail and Bear Trail?

A. 3 1/10 miles
B. 3 9/10 miles
C. 4 1/10 miles
D. 4 4/5 miles

39.

The graph below shows *y*, the total cost in dollars, for *x* tickets to a movie.



Based on the information in the graph, what would be the total cost for 6 movie tickets?
A.$24
B.$40
C.$48
D.$64

40.

Four students ran in a race. The table below shows the time it took each student to finish the race.

Race Finish Time

Name of Student	Time to Finish Race (in seconds)
Karla	15.700
Linda	16.005
Mary	15.095
Sofia	16.010

Which student took the least amount of time to finish the race?

A.Karla
B.Linda
C.Mary
D.Sofia

41.

A farmer has 20 bins of apples. Each bin has 25 red apples and 30 green apples.
Which of the following expressions can be used to find the total number of apples in all the bins?

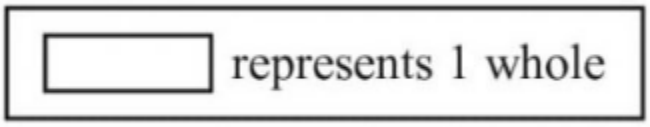
A. 20 + (25 x 30)
B. 20 x (25 + 30)
C. (20 + 25) x (20 + 30)
D. (20 x 25) x (20 x 30)

42.

Aiesha made 4 quarts of applesauce. She will put the applesauce in jars that hold 1/3 quart each. Aiesha solved the equation below to find n, the number of jars she needs to hold all the applesauce.

$$4 \div \frac{1}{3} = n$$

Which of the following models **best** represents this equation?



A. $\frac{100}{360}$

B. $\frac{100}{260}$

C. $\frac{100}{180}$

D. $\frac{100}{90}$

43.

Amal wrote the expression shown below.

$5 \times \frac{4}{3}$

Which of the following statements about the value of Amal's expression is true?

A.The value is between 6 and 7.
B.The value is between 5 and 6.
C.The value is between 4 and 5.
D.The value is between 3 and 4.

44.

Eric divided the sum of 5 and 7 by 6. Which of the following is another way to express Eric's calculations?

A. (7 x 6) ÷ 5
B. 5 ÷ (7 x 6)
C. (7 + 5) ÷ 6
D. 6 ÷ (7 + 5)

45.

Jin had 60 stickers in her collection.
She gave $\frac{3}{5}$ of the stickers to her friend.

How many stickers did Jin give to her friend?

A.12
B.20

C.36
D.40

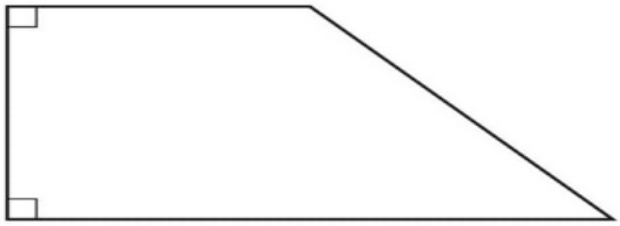
46.

Julie uses 4 green beads of 6 blue beads in each bracelet she makes. What is the total number of green beads Julie will use when she uses 24 blue beads?

A.6
B.10
C.12
D.16

47.

A diagram of a car window is shown below.

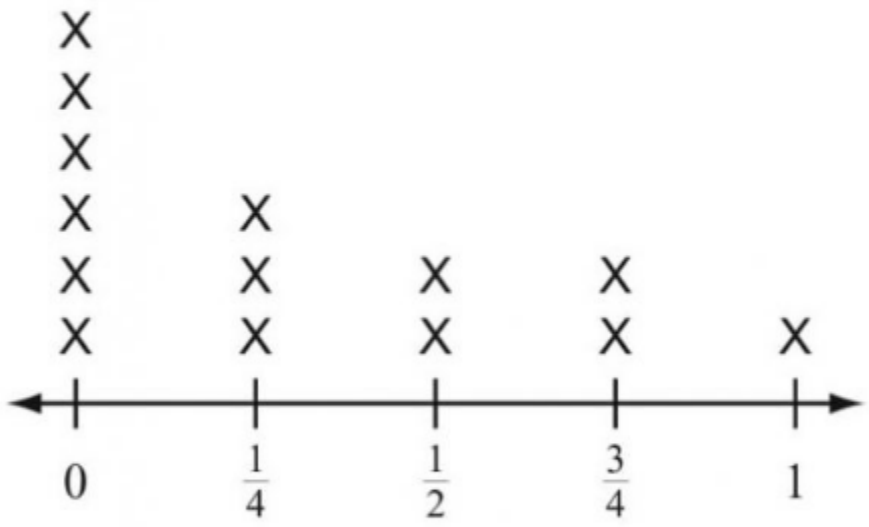


Which two words best describe the shape of the car window?

A. rectangle, rhombus
B. trapezoid, rectangle
C. rhombus, quadrilateral
D. quadrilateral, trapezoid

48.

Josh measured the daily rainfall in his city for two weeks. He recorded the rainfall amounts to the nearest one-fourth inch on a line plot, as shown below.



Amount of Rainfall (inches)

What is the total amount of rainfall Josh recorded for the two weeks?

49.

Which of the following expressions represents the number one million?

A. 10^8

B. 10^7

C. 10^6

D. 10^5

50.

The expressions in the table below show the amount of money, in dollars, that Natalie and Drew each earned babysitting last week.

Earnings from Babysitting

Babysitter	Amount Earned (in dollars)
Natalie	$8 + 4 \times 15$
Drew	4×15

Based on the expressions in the table, which of the following statements is true?

A.Drew earned $4 less than Natalie.
B.Natalie earned $8 more than Drew.
C.Natalie earned 12 times as much as Drew.
D.Drew earned 4 times as much as Natalie.

51.

A number is shown.

266

How many times greater is the value of the underlined digit 6 than the value of the digit 6 that is not underlined?

A. 6
B. 10
C. 60
D. 100

52.

Which expression has a total value of 40?

A. $3 + 2 \times (13 - 5)$
B. $3 + 2 \times 13 - 5$
C. $(3 + 2) \times (13 - 5)$
D. $(3 + 2) \times 13 - 5$

53.

Which expression represents the calculation "subtract 1 from 7, then divide by 3"?

A. $7 - 1 \div 3$
B. $3 \div (7 - 1)$
C. $(7 - 1) \div 3$
D. $7 - (1 \div 3)$

54.

Which description is equivalent to $5 + (4 \times 2)$?

A. add 5 and 4, then multiply by 2
B. multiply 4 by 2, then add 5
C. multiply 5 by 2, then add 4
D. add 4 and 2, then multiply by 5

55.

Which number shows the decimal form for this expression?

$$8 \times \left(\frac{1}{10}\right) + 3 \times \left(\frac{1}{100}\right) + 9 \times \left(\frac{1}{1000}\right)$$

A. 0.0839
B. 0.839
C. 8.39
D. 83.9