

Test Items

Instructions: There are 40 items on this test. Each has only one (1) correct answer. Read each item carefully then select the correct response.

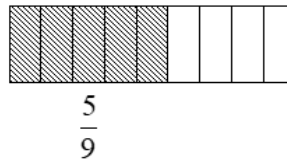
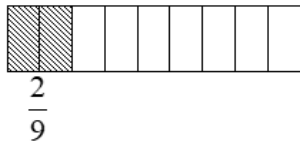
The expanded form of a number is shown below. Use it to answer item 1.

$$(2 \times 1000) + (9 \times 100) + (5 \times 10) + (6 \times 1)$$

1. Which represents the number in standard form?
 - A. 2 000 900 506
 - B. 290 056
 - C. 29 056
 - D. 2 956

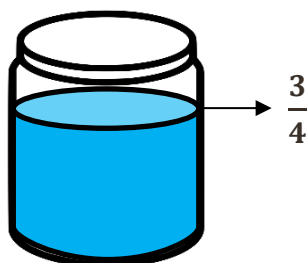
2. Which name **CORRECTLY** represents the number 524?
 - A. five hundred forty two
 - B. five hundred twenty four
 - C. two hundred fifty four
 - D. four hundred twenty five

The diagrams below show two fractions, $\frac{2}{9}$ and $\frac{5}{9}$. Use them to answer item 3.



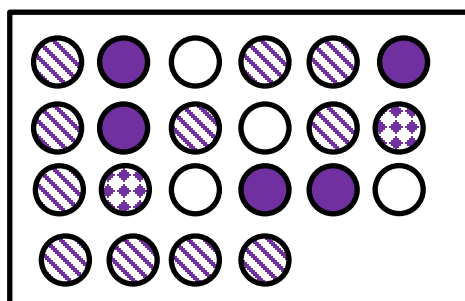
3. Determine the value of $\frac{2}{9} + \frac{5}{9}$.
 - A. $\frac{3}{9}$
 - B. $\frac{7}{9}$
 - C. $\frac{7}{18}$
 - D. $\frac{10}{18}$

The diagram below shows a jar with some liquid. Use it to answer item 4.



4. What percentage **BEST** represents the amount of liquid in the jar?
- A. 25%
 - B. 34%
 - C. 50%
 - D. 75%

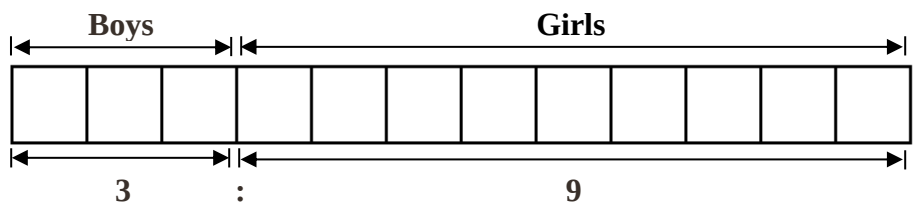
Examine the set of marbles below. Use it to answer item 5.



5. Which marble represents 50% of the set?

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

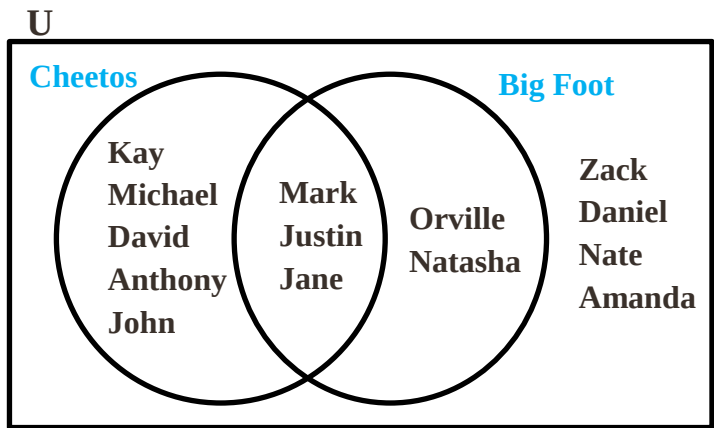
The diagram below shows the ratio of the number of boys to the number of girls in a club as 3 : 9. Use the information to answer item 6.



6. What percentage of the students are girls?
 - A. 90%
 - B. 75%
 - C. 30%
 - D. 25%

7. Which of the following ratios is equivalent to 2 : 3?
 - A. 5 : 10
 - B. 5 : 15
 - C. 10 : 15
 - D. 10 : 25

The Venn diagram below shows the snack that some children prefer. Use it to answer item 8.



8. Which students like both Cheetos and Big Foot?
 - A. {Orville, Natasha}
 - B. {Mark, Justin, Jane}
 - C. {Amanda, Nate, Zack, Daniel}
 - D. {Kay, Michael, David, Anthony, John, Mark, Justin, Jane, Orville, Natasha}

Examine sets X, Y and Z below. Use the information to answer item 9.

$$X = \{1, 3, 8\}$$

$$Y = \{1, 2, 4, 8\}$$

$$Z = \{1, 3, 5, 7, 9\}$$

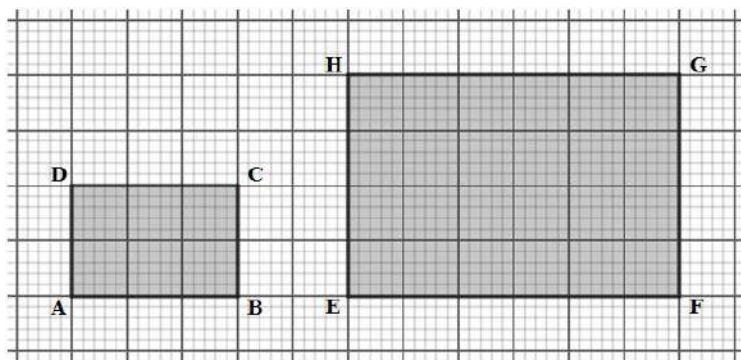
9. Which of the following describes set Y?

- A. factors of 2
- B. factors of 8
- C. multiples of 2
- D. multiples of 8

10. Which diagram shows the ratio of shaded to un-shaded parts as 2 : 1?

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

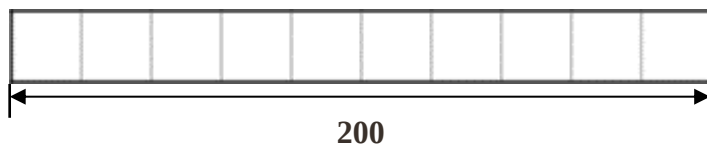
The diagram below shows two similar rectangles. Use it to answer item 11.



11. What is the ratio of side AB to EF?

- A. 2 : 1
- B. 2 : 3
- C. 1 : 2
- D. 3 : 2

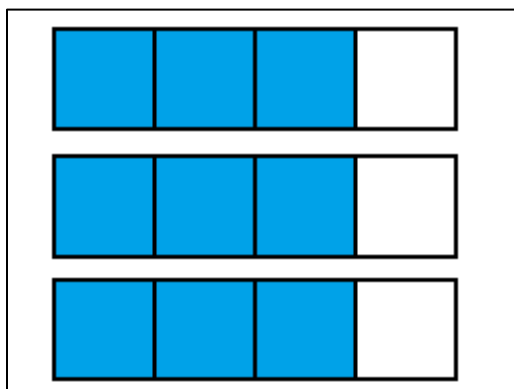
The diagram below represents the number 200. Use it to answer item 12.



12. What is 80% of the number?

- A. 20
- B. 40
- C. 160
- D. 180

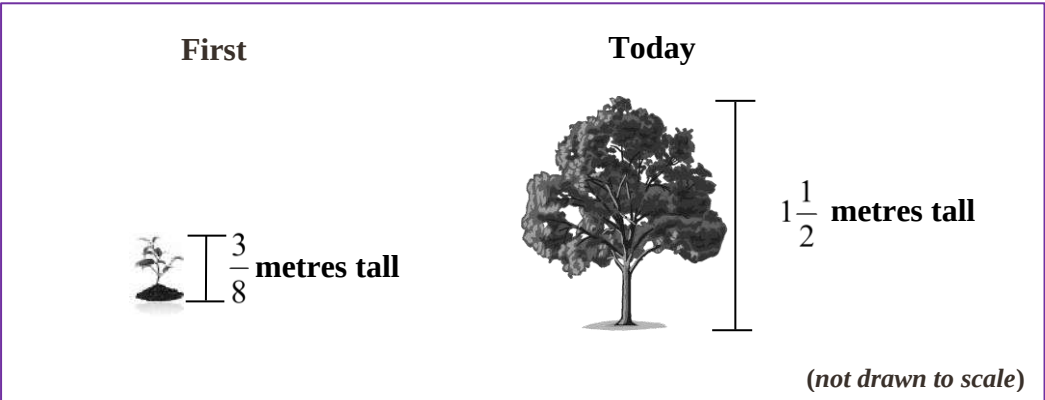
Examine the diagram below. Use it to answer item 13.



13. Which of the following shows how to calculate the total area that is **SHADED**?

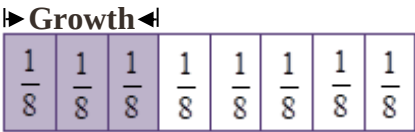
- A. $\frac{3}{4} \times 3 = \frac{9}{4}$
- B. $\frac{3}{4} \times 4 = \frac{12}{4}$
- C. $\frac{1}{3} \times 4 = \frac{4}{3}$
- D. $\frac{1}{4} \times 3 = \frac{3}{4}$

The diagram below shows how much a tree that was planted has grown over a period of time. Use it to answer item 14.

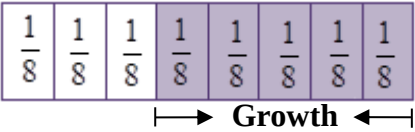


14. In which model does the shaded area correctly represent how much the tree has grown?

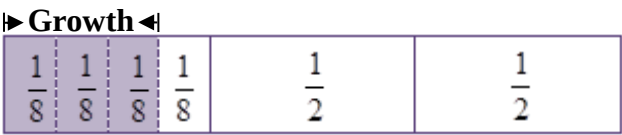
A.



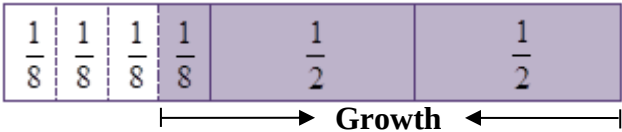
B.



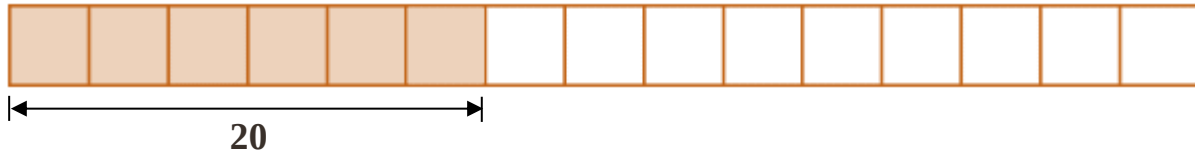
C.



D.



Examine the bar and the information given about the bar below.



- The bar is divided into 15 equal parts
- The bar represents 100% of a number
- The shaded part of the bar represents 20
- Twenty is 40% of the number

Use the bar and the information given about the bar to answer item 15.

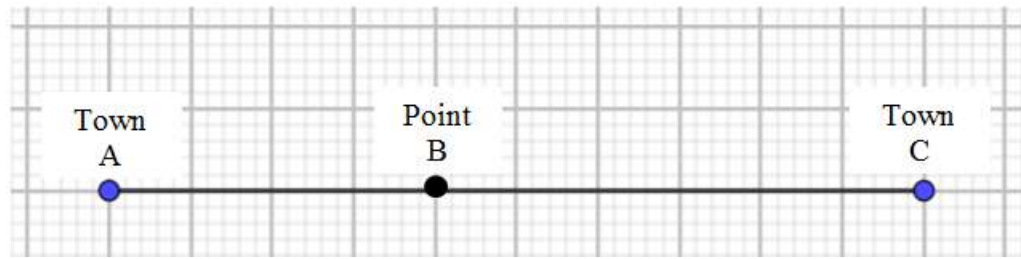
15. Which number represents **100%** of the bar?
- A. 60
- B. 50
- C. 40
- D. 15

The table below shows the amount of milk, in litres, needed to make different products. Use the information in the table to answer item 16.

Product	Bun	Cookie	Cake	Cheese	Yogurt	Pancake
Amount of milk (litres)	$1\frac{3}{4}$	$\frac{1}{3}$	2	$2\frac{1}{2}$	$3\frac{1}{3}$	$\frac{1}{4}$

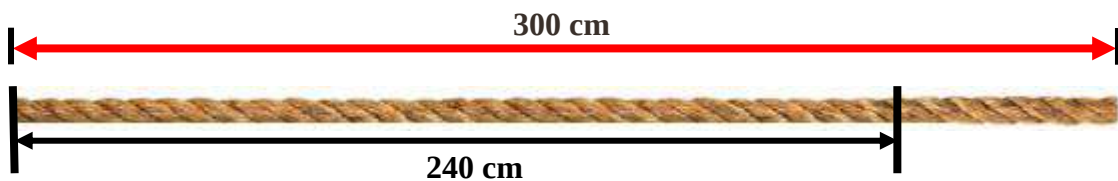
16. Which three products will require exactly **4 litres** of milk altogether?
- A. Cheese, Yogurt, and Bun
- B. Cookie, Pancake, and Cheese
- C. Pancake, Bun, and Cake
- D. Yogurt, Cookie, and Cake

The diagram below represents the distances between Town A, Point B and Town C. Peter travelled in a straight line from Town A to Town C. Use it to answer item 17.



17. Peter stopped at point B. What percentage of the journey did he cover?
- A. 4%
 - B. 20%
 - C. 40%
 - D. 60%
18. Fifty (50) sweets were shared between John and Mark in the ratio of 1 : 4 respectively. What was Mark's share?
- A. 40 sweets
 - B. 30 sweets
 - C. 10 sweets
 - D. 5 sweets

Examine the rope below. It measures 300 cm. Use it to answer item 19.



(not drawn to scale)

19. A piece of the rope, which measures 240 cm, was used to tie a box. What percentage of the rope was used to tie the box?
- A. 10 %
 - B. 20 %
 - C. 60 %
 - D. 80 %

The three tables below show 3 classes: Class A, Class B and Class C. The number of girls in each class is shown, as well as the percentage of girls in each class. Use the information given in each table to answer item 20.

CLASS A		
Number of Girls	Percentage of Girls	Total Number of Students in Class
8 Girls	50% of the class	?

CLASS B		
Number of Girls	Percentage of Girls	Total Number of Students in Class
8 Girls	40% of the class	?

CLASS C		
Number of Girls	Percentage of Girls	Total Number of Students in Class
8 Girls	20% of the class	40

20. Which statement is **TRUE**?
- A. Class A has more students than Class B.
 - B. Class B has more students than Class C.
 - C. Class C has more students than Class A.
 - D. Each class has 40 students.

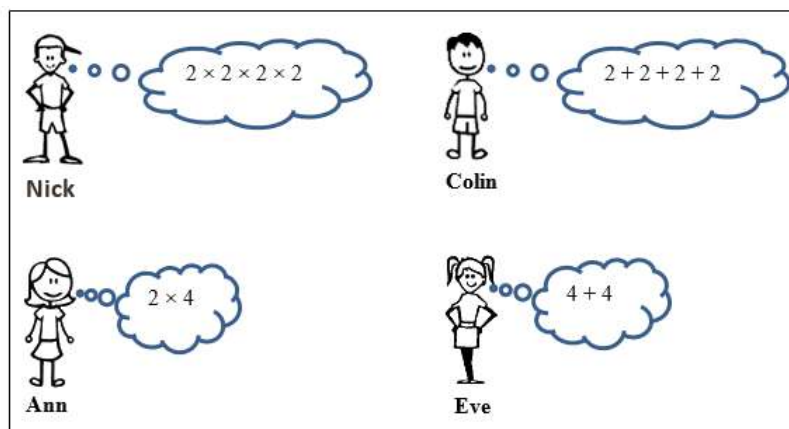
21. Which problem can be solved by adding $\frac{1}{2}$ and $\frac{1}{3}$?
- A. Jake puts $\frac{1}{2}$ of his pencils into an empty bag. He then puts another $\frac{1}{3}$ of his pencils into the same bag. What fraction of his pencils are now in the bag?
- B. Jake puts $\frac{1}{2}$ of his pencils into his desk. He then gives $\frac{1}{3}$ of the pencils in his desk to Lacy. What fraction of Jake's pencils did Lacy receive?
- C. Jake gives $\frac{1}{2}$ of his pencils to Bill and some of his pencils to Kimmy. What fraction of his pencils did he give to Kimmy, if he now has $\frac{1}{3}$ remaining?
- D. Jake gives $\frac{1}{2}$ of his pencils to Jill and $\frac{1}{3}$ of the remainder to Bill. What fraction of his pencils does he have left?

Five numbers are shown in the box below. The value of the digit 2 is less than one thousand in each of the numbers in the box. Examine the numbers carefully then answer item 22.

4 239	31 429	46 523	624	3 494 702
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22. For which of the following is the value of the **digit 2** also less than one thousand?
- A. 1 234
- B. 42 936
- C. 329 463
- D. 5 249 310

Four students were asked to determine the value of 2^4 . Their calculations are shown in the box below. Use the calculations to answer item 23.



23. Which student's calculation is **CORRECT**?
- A. Ann
 - B. Colin
 - C. Eve
 - D. Nick

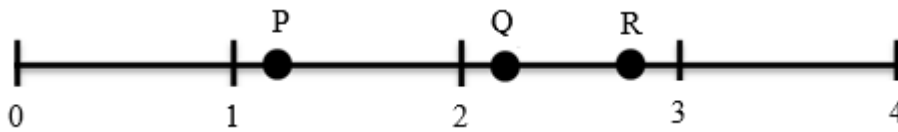
Read the statement below carefully. Use it to answer item 24.

"There is no number greater than 5.69 that has 6 in the tenths place."

24. Which of the following shows that the statement is **FALSE**?

	Ones	·	Tenths	Hundredths	Thousandths
A.	5	·	6	0	0
B.	5	·	6	8	1
C.	5	·	6	9	0
D.	5	·	6	9	1

The line segment below represents 4 wholes. Mario correctly selected point Q to represent an estimation of 220% on the line segment. Use it to answer item 25.



25. Which of the following **could not** be his reason for choosing this point?
- A. 220% is just a little over 2 wholes.
 - B. Any random point between 2 and 3 would be correct.
 - C. Point P is too close to 1 and Point R is too close to 3.
 - D. Point Q is approximately $\frac{1}{5}$ the way between 2 and 3, which is 20% more.

Examine the conversation shown below between Mark and Ariel about the ratio 1 : 5. Use it to answer item 26.

Mark: The ratio of boys to girls in our school is 1 : 5.

Ariel: Ok, that means that the fraction of boys in our school is $\frac{1}{5}$.

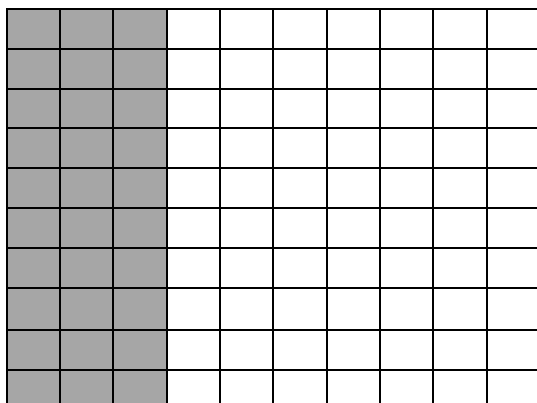
Mark: You are wrong!

26. Which of the following should Ariel have known about the ratio 1 : 5?
The fraction of boys in the school is _____.

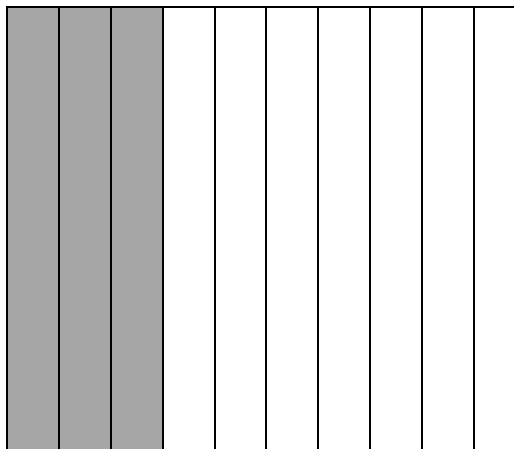
- A. $\frac{1}{6}$ because it is 1 out of 6 equal parts
- B. $\frac{5}{6}$ because it is 5 out of 6 equal parts
- C. $\frac{6}{1}$ because it is 6 out of 1 equal parts
- D. $\frac{6}{5}$ because it is 6 out of 5 equal parts

Four students in a class were given the following grids and asked to write about the portion of each grid that is shaded. Use the grids, as well as each student's response, to answer item 27.

Grid M



Grid N



Students' Responses:

Alex: *"0.3 of grid M is shaded and 0.3 of grid N is shaded."*

Jen: *"0.03 of grid M is shaded and 0.3 of grid N is shaded."*

Leo: *"0.3 of the grid M is shaded and 0.03 of grid N is shaded."*

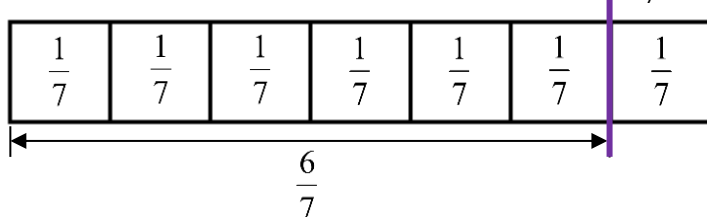
Milton: *"0.003 of the grid M is shaded and 0.03 of grid N is shaded."*

27. Which student's response about the grids is **CORRECT**?

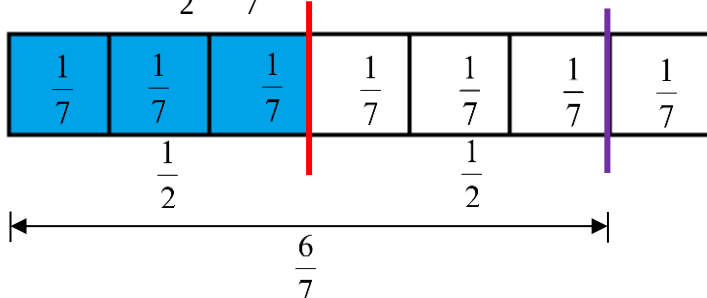
- A. Alex
- B. Jen
- C. Leo
- D. Milton

Jenny is solving $\frac{1}{2} \times \frac{6}{7}$. The diagrams below show the steps that she took to solve the problem. Use it to answer item 28.

Step 1: Divide a whole into 7 parts and identify $\frac{6}{7}$



Step 2: Find $\frac{1}{2}$ of $\frac{6}{7}$



Step 3: Add the number of sevenths in $\frac{1}{2}$ of $\frac{6}{7}$



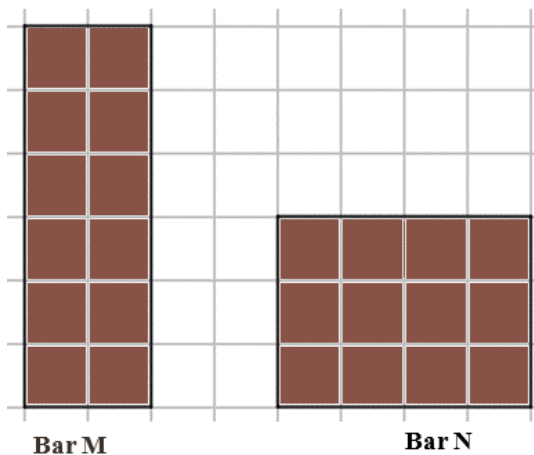
$$\frac{1}{7} + \frac{1}{7} + \frac{1}{7} + \frac{1}{7} = \frac{4}{7}$$

Step 4: Solution $\frac{1}{2} \times \frac{6}{7} = \frac{4}{7}$

28. Where did Jenny make the error?

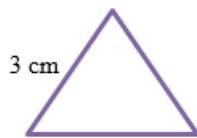
- A. Step 1: in the representation of $\frac{6}{7}$
- B. Step 2: in the representation of $\frac{1}{2}$ of $\frac{6}{7}$
- C. Step 2: in the representation of $\frac{6}{7}$
- D. Step 3: in the representation of $\frac{1}{2}$ of $\frac{6}{7}$

The diagram below represents two bars of chocolate. Use the diagram to answer item 29.

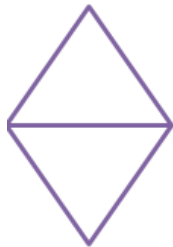


29. Both chocolate bars are equal in thickness. Which statement is **TRUE** about the chocolate bars?
- A. Bar M has more pieces of chocolate than Bar N
 - B. Bar N has more pieces of chocolate than Bar M
 - C. Both bars have the same number of pieces of chocolate
 - D. Bar N has twice the number of pieces of chocolate as Bar M

Examine the equilateral triangle below. Its perimeter is 9 cm.



Two of these triangles are placed together to make a new shape as shown below. Use them to answer item 30.



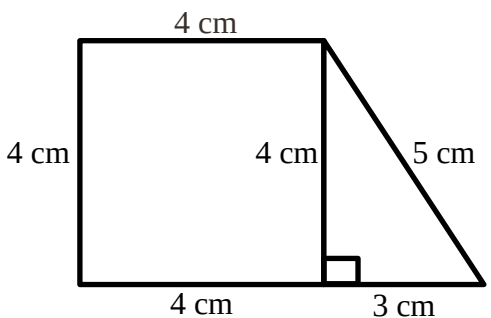
30. Which of the following is the perimeter of the new shape?
- A. 6 cm
 - B. 9 cm
 - C. 12 cm
 - D. 15 cm

Mary is travelling from Montego Bay to Kingston by bus. The bus schedule is given below. Use it to answer item 31.

	Time (hours)						
Departure City: Montego Bay	06:00	07:00	09:00	11:00	14:00	15:00	17:00
Arrival City: Kingston	10:00	11:00	13:00	15:00	18:00	19:00	21:00

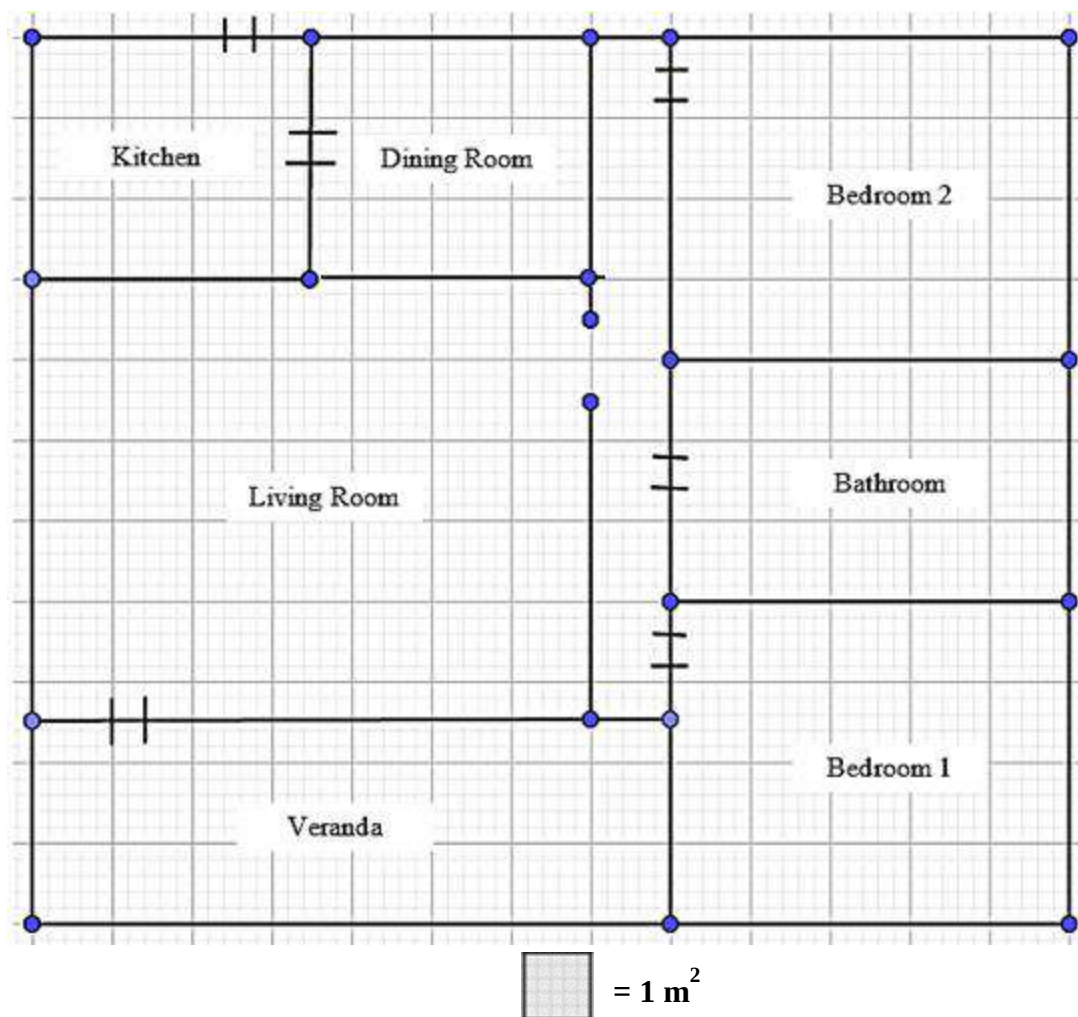
31. Mary has an appointment in Kingston at 15:30 hours. She wants to arrive in Kingston at least an hour before the appointment. What is the latest possible time that she should leave Montego Bay?
- 9:00 a.m.
 - 11:00 a.m.
 - 1:00 p.m.
 - 3:00 p.m.

The table below shows a shape (*not drawn to scale*), and the explanation two students gave about its perimeter. Use the shape and the explanations to answer item 32.

Shape	Explanation
	Student 1: “To find the perimeter of the shape add all the length of the sides along the boundary of the shape.” Student 2: “To find the perimeter of the shape add up all the numbers shown on the shape.”

32. Which student’s statement is **CORRECT**?
- Only Student 1 is correct.
 - Only Student 2 is correct.
 - Neither Student 1 nor Student 2 is correct.
 - Both Student 1 and Student 2 are correct.
33. A cuboid shaped cardboard box has a volume of 4800 cm^3 . The height of the box is 20 cm. Which of the following could be the length and the width of the box?
- length = 40 cm, width = 20 cm
 - length = 60 cm, width = 20 cm
 - length = 15 cm, width = 8 cm
 - length = 15 cm, width = 16 cm

The scale drawing of a floor plan is shown below. Use it to answer item 34.



34. Which of the following is a reasonable estimate of the area of the living room?
- A. 20 m^2
 - B. 24 m^2
 - C. 40 m^2
 - D. 72 m^2

Examine the mathematical statement below. Use it to answer item 35.

$$8 \blacklozenge 6 < 2$$

35. Which of the following, when used to replace the “ $\blacklozenge$ ”, would make the statement **TRUE**?

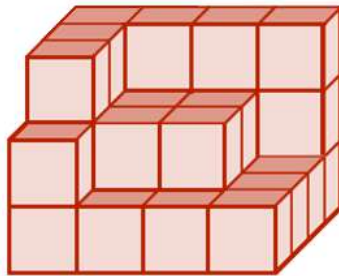
- A. $+$
- B. $-$
- C. $\div$
- D. $\times$

36. Which pair of numbers when inserted in the boxes labelled m and n will produce a sum that is less than 1?

$$\frac{\boxed{m}}{5} + \frac{3}{\boxed{n}}$$

- A. $m = 1$ and $n = 3$
- B. $m = 2$ and $n = 5$
- C. $m = 5$ and $n = 3$
- D. $m = 1$ and $n = 4$

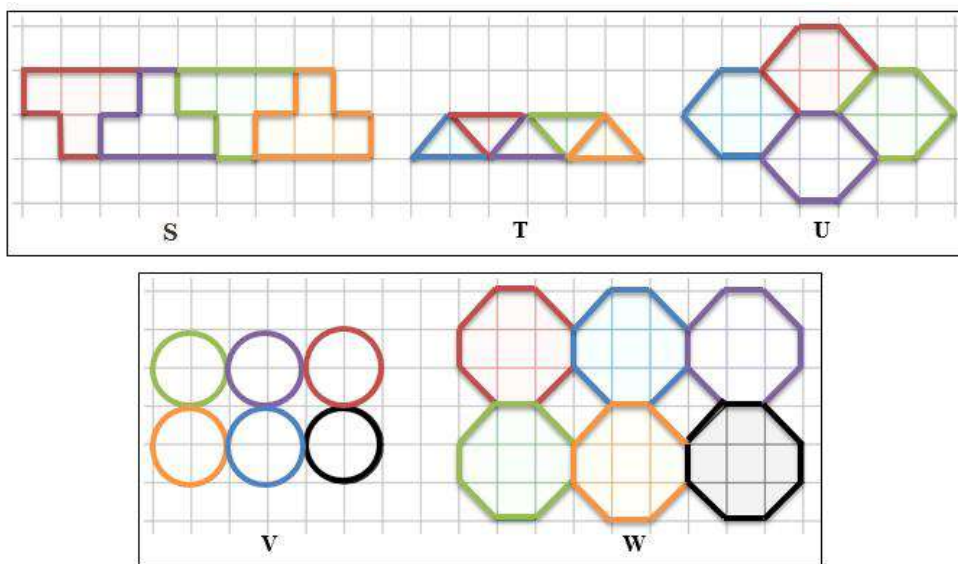
A group of students is using some unit cubes to make a large cuboid. The diagram below shows how far they have reached. When completed, the cuboid will be 4 unit cubes in length, 4 unit cubes in width, and 3 unit cubes in height. Use this information to answer item 37.



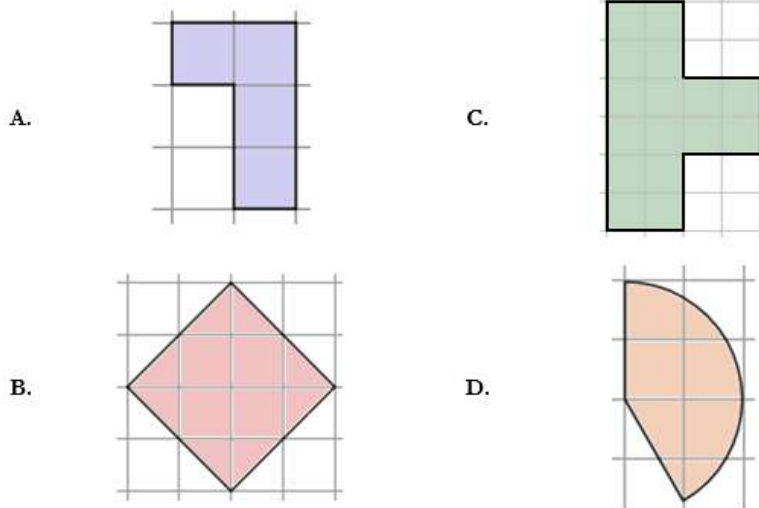
37. About how many more unit cubes are needed to complete the large cuboid?

- A. 10
- B. 15
- C. 18
- D. 20

The shapes used in diagram S, T and U make good floor tiles because they fit together as is, without leaving spaces. The shapes used in diagram V and W do NOT make good floor tiles. Examine the shapes carefully then use them to answer item 38.



38. Which of these shapes will **NOT** make a good floor tile?

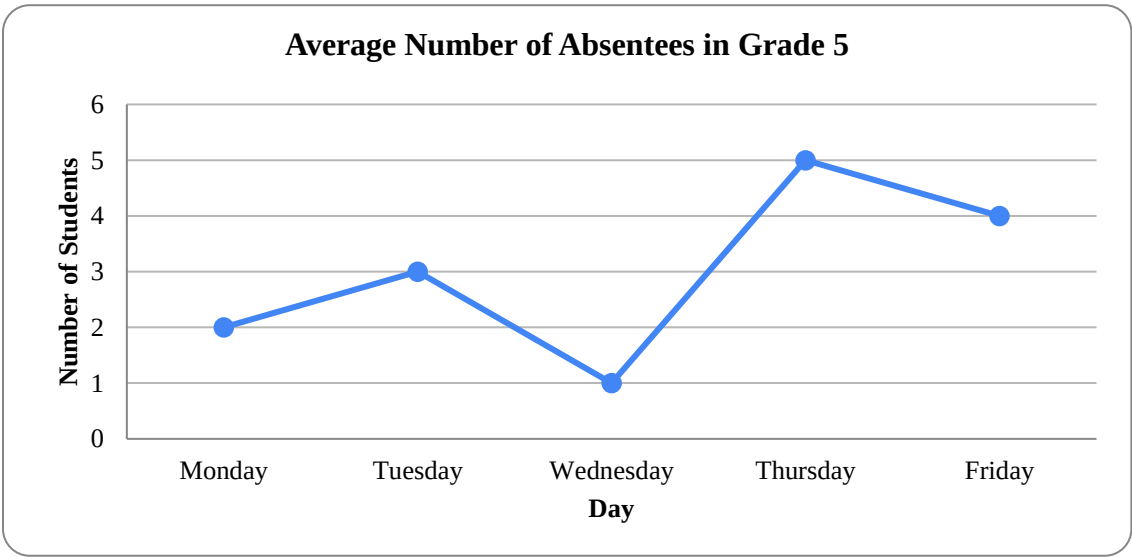


The table below shows the ages, in years, of the people at Susan’s 18th birthday party. Use it to answer item 39.

Stem	Leaf
0	5, 8, 8, 8
1	1, 1, 1, 1, 2, 2, 3, 3, 3, 4, 5, 5, 8
2	8
3	0, 3, 6

39. How many people at the party were older than Susan?
- A. 3
 - B. 4
 - C. 13
 - D. 16

The line graph below shows the average number of students absent from grade 5 over a six-week period. Use it to answer item 40.



40. On which day of the week are all grade 5 students **most likely** to be at school?
- A. Monday
 - B. Wednesday
 - C. Thursday
 - D. Friday