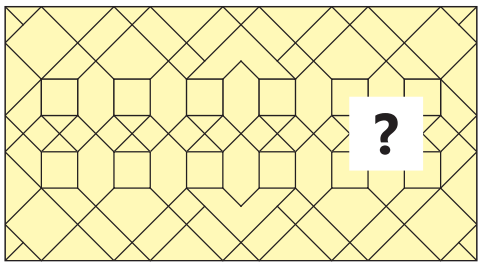
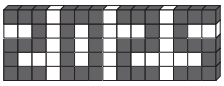
3 points problems

01. Which of the pieces shown would complete the pattern?

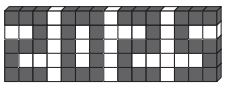
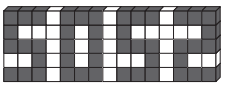
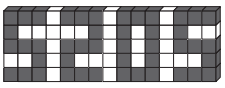
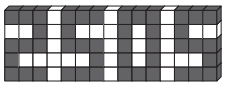
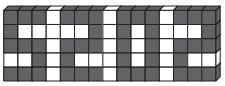


(A) 
(C) 
(E) 
(B) 
(D) 

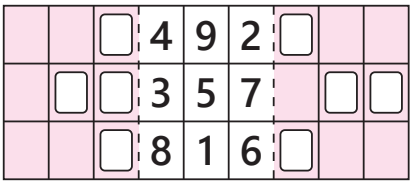
02. Anna has built a wall that displays the year 2025 using white and grey blocks. Bella stands on the other side of the wall.



What does Bella see?

(A) 
(C) 
(E) 
(B) 
(D) 

03. Mike has a leaflet with numbers and holes in the flaps on both sides, as shown in the picture.

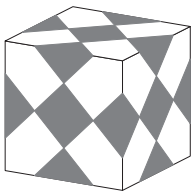


He folds the right flap along the dotted line and sees the numbers 2, 3, 5 and 6 through the holes. Then he folds the left flap along the other dotted line.

What is the sum of the numbers he sees now?

(A) 10 **(B)** 12 **(C)** 14 **(D)** 9 **(E)** 8

04. A cube is decorated by gluing identical grey square stickers on it, without overlapping. All faces of the cube look the same, as shown.



How many grey stickers were glued on the cube in total?

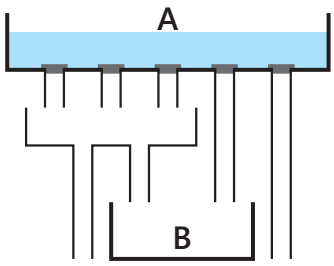
(A) 30 **(B)** 18 **(C)** 16 **(D)** 15 **(E)** 14

05. Emil put slices of tomato, black olives, chillis, mushrooms and onion rings on top of a pizza, but not necessarily in that order. He only put one ingredient at a time. His finished pizza is shown in the picture.

Which was the third topping he put on the pizza?

(A) tomato slices
(B) black olives
(C) chillis
(D) mushrooms
(E) onion rings

06. Container **A** holds 10 litres of water. All five plugs at the bottom of container **A** are taken out at the same time and the water flows out through identical tubes.

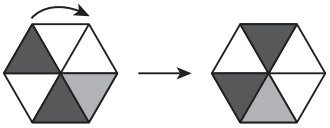


What volume of water flows into container **B**?

(A) 3 litres. **(C)** 5 litres. **(E)** 8 litres.

(B) 4 litres. **(D)** 6 litres.

07. Thea rotates a hexagon of paper divided into six equal triangles. When the paper is rotated, it is turned clockwise one triangle. The original hexagon of paper and the result of one rotation are shown in the diagram.



What does the hexagon of paper look like after a total of eight rotations?

(A)  **(B)**  **(C)**  **(D)**  **(E)** 

08. The board shows the prices of the burgers in a restaurant. On the board, the burgers are ordered from the cheapest to the most expensive, but some numbers have been erased.

Which of the following is the price of one of the burgers?

(A) 4.10

(B) 5.50

(C) 5.60

(D) 6.30

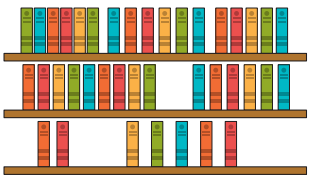
(E) 6.60

09. Six children took part in a race. Ariadne finished in the third place. Biel finished sixth, just behind Ernest. Fatima finished between Ariadne and Ernest. Diana overtook Charles right before the finish line.

Who won the race?

(A) Ariadne **(B)** Charles **(C)** Diana **(D)** Ernest **(E)** Fatima

10. A bookshelf with three shelves has 17 books on the top shelf, 15 books on the middle shelf, and 7 books on the bottom shelf. Monika wants all shelves to have the same number of books on. She also wants to move as few books as possible.



How many books should she move from the middle shelf to the bottom shelf?

(A) 1 **(B)** 2 **(C)** 3 **(D)** 4 **(E)** 5

4 points problems

11. Each of the cards shown below have two 3-digit numbers written on them, but some of the digits cannot be seen as they are covered in ink. On one of the cards, the sum of the digits of both numbers is the same.

On which card are those two numbers?

(A) 543 and 11▮

(B) 58▮ and 11▮

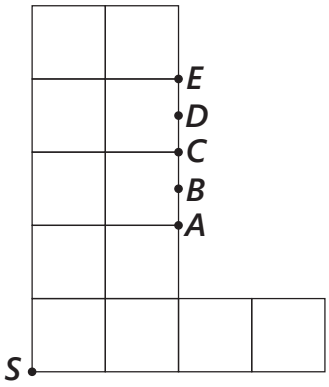
(C) 982 and 1▮▮

(D) 211 and 6▮▮

(E) 777 and 2▮▮

12. The shape in the diagram is made of identical squares. Point ***B*** is halfway between points ***A*** and ***C***. Also, point ***D*** is halfway between points ***C*** and ***E***. Maria wants to divide the shape into two parts of equal area.

Which of the points ***A***, ***B***, ***C***, ***D*** or ***E*** should she connect with a straight line to point ***S*** to do this?



(A) *A*

(B) *B*

(C) *C*

(D) *D*

(E) *E*

13. Three turtles participate in a 10-metre race. Each of them moves at a constant speed. When the first turtle finishes, the second turtle has covered $\frac{1}{4}$ of the distance, and the third turtle has covered $\frac{1}{5}$ of the distance.

How far from the finish line will the third turtle be when the second turtle finishes?

(A) 1 m **(B)** 2 m **(C)** 3 m **(D)** 4 m **(E)** 5 m

14. Vera has built a tower of blocks. She wants to replace the two blocks with the question marks on with two blocks with numbers on. She wants the number on each block in her tower to be at least 2 more than the number on the block below it.

In how many ways can Vera do this?

(A) 3

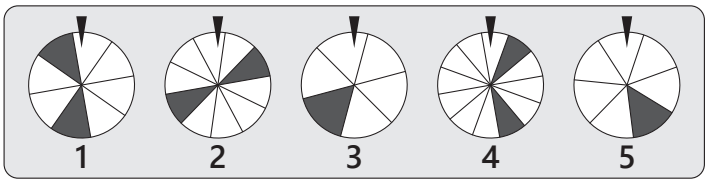
(B) 4

(C) 5

(D) 6

(E) 7

15. The picture shows five *wheels of fortune*. Each wheel is divided into a different number of identical parts. You will win a prize when the wheel is spun and then stops with the triangle above the wheel pointing to a part that is shaded.



Which wheel gives you the best chance of winning?

(A) 1 **(B)** 2 **(C)** 3 **(D)** 4 **(E)** 5

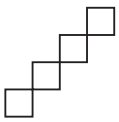
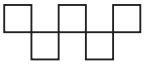
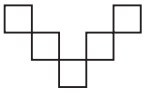
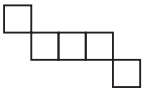
16. Hasan wants to write a 0 or a 1 in each cell of the diagram so that the sum of the numbers in each row, column and diagonal is 3. He has already written a 0 in one of the cells.

	?		
		0	
?			?
	?		

When he finishes, what will the sum of the numbers in the cells shown with a question mark be?

(A) 1 **(B)** 2 **(C)** 3 **(D)** 4 **(E)** It cannot be calculated.

17. Which shape, or any rotation of the shape, **CANNOT** be placed onto the white parts of the large square?

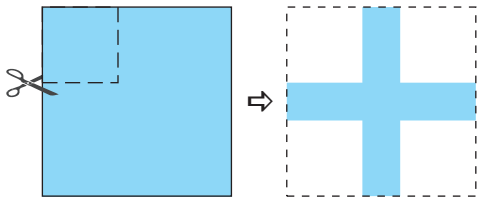
(A)  **(B)**  **(C)**  **(D)**  **(E)** 

18. My school's swimming team is practising for a relay competition. Five swimmers swam the same distance, one after the other. The pictures below show the times on their coach's stopwatch when each swimmer had finished their leg. The first swimmer needed 2 minutes and 8 seconds and the five swimmers together needed 10 minutes and 3 seconds.

Which one of the swimmers needed the least time?

(A) The first. **(B)** The second. **(C)** The third. **(D)** The fourth. **(E)** The fifth.

19. Janaína cuts four identical squares from the corners of a square sheet of paper, as shown. The total area she cut off is 16 cm^2 and the area of the remaining figure is 9 cm^2.



What is the perimeter of the remaining figure in cm?

(A) 9 **(B)** 16 **(C)** 20 **(D)** 25 **(E)** 32

20. Mary and Paul each wrote down three 3-digit numbers using the digits 1 to 9 exactly once. Then they ordered their numbers as **smallest**, **middle** and **largest**, as shown in the example.

Example

392	487	516
smallest	middle	largest

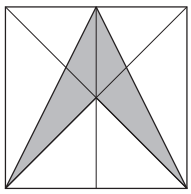
Mary wrote down the largest possible value the **middle** number could have. Paul wrote down the smallest possible value the **middle** number could have.

What is the difference between their two **middle** numbers?

(A) 642
(B) 684
(C) 864
(D) 888
(E) None of the previous.

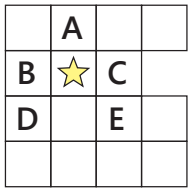
5 points problems

21. The side-length of the square shown in the diagram is 10 cm. The line down in the middle of the square divides it into two equal rectangles. What is the area of the shaded region?



(A) 12.5 cm^2
(B) 25 cm^2
(C) 30 cm^2
(D) 40 cm^2
(E) 50 cm^2

22. Joanna divides the figure shown into five equally shaped parts, each consisting of three squares. The square containing which letter is in the same part as the square marked with a star?



(A) A
(B) B
(C) C
(D) D
(E) E

23. Facu never tells the truth on Tuesdays, Thursdays and Saturdays. He always tells the truth on the other four days. One day Mateo had the following conversation with Facu:

Mateo: "What day is today?"

Facu: "Saturday"

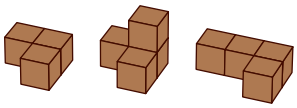
Mateo: "What day will be tomorrow?"

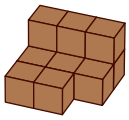
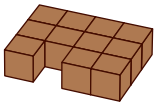
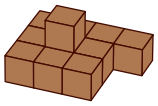
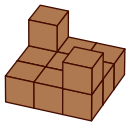
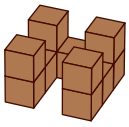
Facu: "Wednesday"

On which day did this conversation take place?

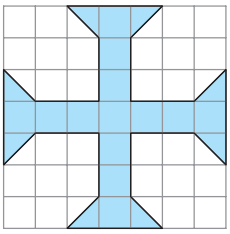
(A) Monday
(B) Tuesday
(C) Wednesday
(D) Thursday
(E) Friday

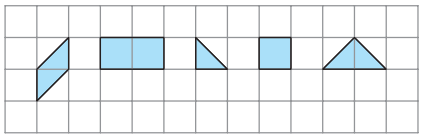
24. Tino combines the three building blocks shown on the right. Which of the following constructions could he make?



(A) 
(B) 
(C) 
(D) 
(E) 

25. Julio wants to construct the figure shown on the right using pieces shaped like the ones in the grid below. He has many copies of each piece and knows he can rotate them if needed. The pieces must not overlap.

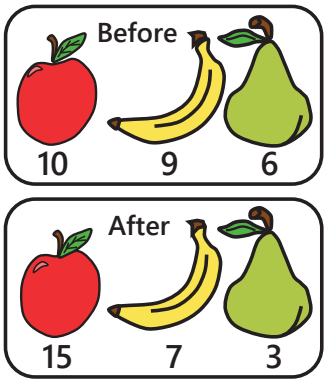




What is the smallest number of pieces he could use to construct the shape?

(A) 11 **(B)** 12 **(C)** 13 **(D)** 15 **(E)** 17

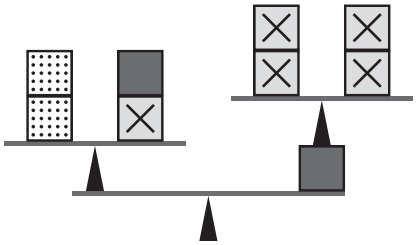
26. A witch had 10 apples, 9 bananas and 6 pears. One day she performed some magic and turned each of her pieces of fruit into one of the other two types. For example, she changed each apple into either a banana or a pear. She now has 15 apples, 7 bananas and 3 pears.



How many of the apples did she change into a banana?

(A) 3 **(C)** 5 **(E)** 7
(B) 4 **(D)** 6

27. Some blocks are balanced on top of each other, as shown. Blocks that are shaded in the same way have the same weight.



Ville wants to order the three different types of square block from heaviest to lightest, from left to right.

What order should Ville obtain?

(A) 

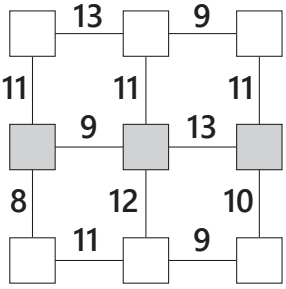
(B) 

(C) 

(D) 

(E) 

28. Patricia wants to write the integer numbers from 1 to 9 into the squares in the diagram, with one number in each square. She wants the sum of the numbers in any two adjacent squares to be equal to the number shown on the line joining these squares.



What is the sum of the numbers she writes in the shaded row?

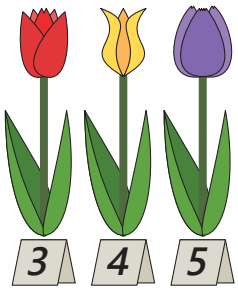
(A) 16 **(B)** 17 **(C)** 18 **(D)** 20 **(E)** 21

29. Sara had three times as many chocolates as Sanaz. Sara then gave a quarter of her chocolates to Sanaz. Sara now has six more chocolates than Sanaz.

How many more chocolates than Sanaz did Sara have originally?

(A) 36 **(B)** 30 **(C)** 27 **(D)** 24 **(E)** 20

30. Zeta wants to buy some flowers. The prices of the three flowers she can buy are shown in the picture.



How many different bouquets with a total cost of exactly 23 can she buy?

(A) 4

(B) 5

(C) 6

(D) 7

(E) 8