

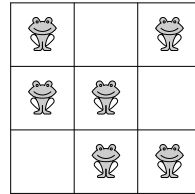
19. There are 60 pupils on a trip. When they line up, the colours of their reflective vests follow the pattern: yellow, green, yellow, green... The colours of their backpacks follow a different pattern: red, brown, orange, red, brown, orange... How many pupils with a yellow reflective vest also have an orange backpack?  
A) 3 B) 4 C) 6 D) 8 E) 10

20. In the following calculations, the same digits are hidden under the same figures. Different digits are hidden under different figures. What is the value of  $\triangle \times \bullet \times \blacksquare$ ?  
A) 0 B) 15 C) 18 D) 28 E) 30

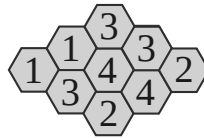
$$\triangle + \triangle = \blacksquare \bullet$$

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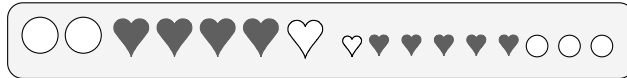
21. There are exactly two frogs in each row and each column. The frogs decide that 2 of them will jump to a neighbouring empty cell at the same time. Neighbouring cells have a side in common. After that, there still are exactly 2 frogs in each row and in each column. In how many ways can the frogs do this?  
A) 2 B) 3 C) 4 D) 5 E) 6



22. The figure below shows a honeycomb with nine cells. There is honey in some cells. The number in each cell shows how many neighbouring cells contain honey (neighbouring cells have a side in common). How many cells contain honey?  
A) 4 B) 5 C) 6 D) 7 E) 8

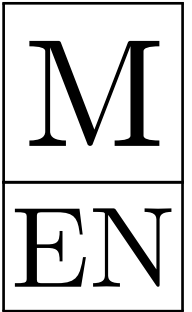
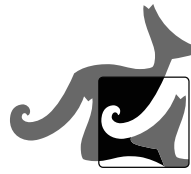
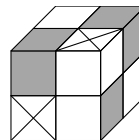


23. Three girls go to the tray one after the other and take some cookies. One of the girls takes all the hearts available on the tray. One girl takes all the white cookies available on the tray. One girl takes all the large cookies available on the tray. However, they do not necessarily take the cookies in this order. One girl takes 3 cookies, one takes 6 cookies and one takes 7 cookies. Which of the following sets of cookies does one of these girls take?



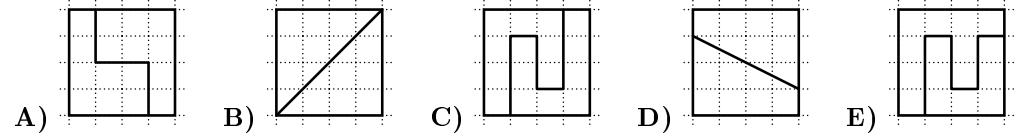
- A) B) C) D) E)

24. There are two types of blocks: white and grey . A small cube can be made of 4 white blocks or of 1 white and 1 grey block. The large cube shown in the picture is made of small cubes. What is the smallest number of white blocks needed to make this large cube?  
A) 8 B) 11 C) 13 D) 14 E) 23



### Questions for 3 points

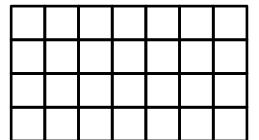
1. Which square is cut into two different shapes?



2. Which of the following sums is the largest?

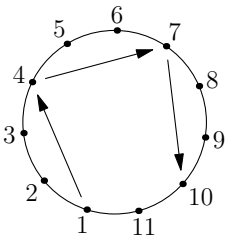
A)  $202+4$  B)  $20+24$  C)  $2+0+2+4$  D)  $20+2+4$  E)  $2+0+24$

3. The table consists of 28 white cells. Ira paints two rows and one column. A row is from left to right. A column is from top to bottom. How many cells will remain white?  
A) 8 B) 10 C) 12 D) 14 E) 16



4. Soccer players numbered 1 to 11 stand in a circle. Each player kicks the ball to the third player on their left. Player 1 starts. This kicking pattern continues until a player has the ball for the second time. What is the number of the player who kicked the ball last?

A) 11 B) 9 C) 8 D) 6 E) 4



5. Mohammad wrote three consecutive 4-digit numbers in a row. His sister erased some digits. What are the missing digits?

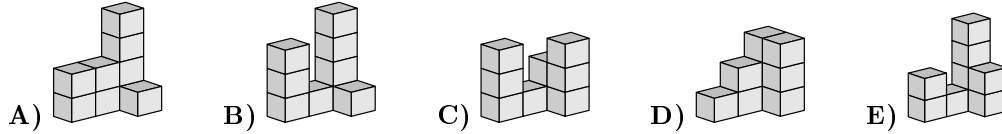
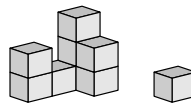
7, 898, 48

A) 389, 3, 99 B) 489, 3, 96 C) 489, 4, 98 D) 489, 4, 99 E) 488, 4, 99

6. Lizzy pays 7 dollars for three items. The cost of each item is different and is a whole number. How much is the most expensive item?

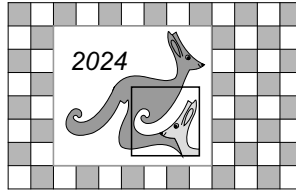
A) 2 dollars B) 3 dollars C) 4 dollars D) 5 dollars E) 6 dollars

7. A cat knocks off one block from Felix's construction. What could this construction have looked like before the block was knocked off?



8. Alex has a Kangaroo poster on the kitchen wall. How many grey tiles are there behind the poster?

A) 15 B) 21 C) 25 D) 30 E) 35



### Questions for 4 points

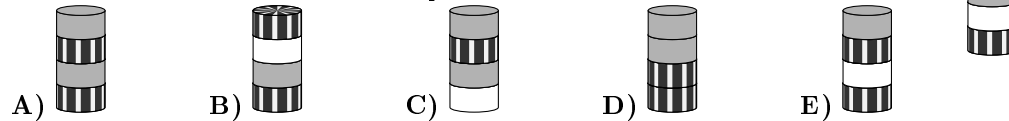
9. Lucian wants to choose two of the six numbers 1, 2, 3, 4, 5, 6 and find their sum. How many different results can he get?

A) 7 B) 8 C) 9 D) 15 E) 30

10. There are five fruits in a bowl: . Ann likes . Ben likes . Cam likes . Dan likes . Eli likes . Everyone gets a fruit they like. What does Ben get?

A) B) C) D) E)

11. Ada has built a tower of 8 discs, as in the picture. Ada removes the second disc from the bottom of this tower. Then she removes the third disc from the bottom of the new tower. Then she removes the fourth disc from the bottom of the new tower. Then she removes the fifth disc from the bottom of the new tower. Which tower does Ada end up with?

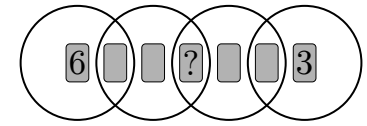


12. Peter the penguin goes fishing every day and brings back 9 fish for his 2 chicks. Each day, he gives 5 fish to the first chick he sees and 4 fish to the second chick, which they eat. Over the last few days, 1 chick has eaten 26 fish. How many fish has the other chick eaten?

A) 19 B) 22 C) 25 D) 28 E) 31

13. Seven cards, numbered 1 to 7, are placed in four overlapping rings. The sum of the numbers in each ring is 10. Which number is under the question mark?

A) 1 B) 2 C) 4 D) 5 E) 7



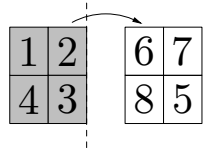
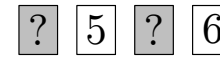
14. Lucas wants to make a caterpillar that has a head, a tail and either 1, 2 or 3 puzzle pieces in between.



How many different caterpillars can Lucas make without flipping pieces?

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

15. John writes the numbers 1 to 4 on a sheet. Then he flips the sheet and writes the numbers 5 to 8, as shown. After that, he cuts the sheet into 4 rectangular cards and puts them in a row:

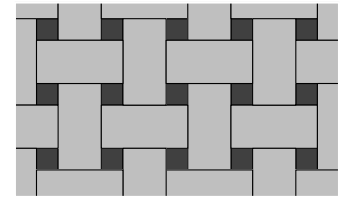


What is the sum of the numbers represented by the question marks?

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

16. A floor is covered with two kinds of tiles and . The rectangles have size 23 cm × 11 cm. The picture shows a part of the floor. What is the side-length of the square tiles?

A) 3 cm B) 4 cm C) 5 cm D) 6 cm E) 7 cm



### Questions for 5 points

17. A student has three cards with numbers on them. Their sum is 782. Unfortunately, a worm ate part of each card. What is the sum of the three missing digits?

A) 8 B) 9 C) 10 D) 11 E) 12

$$2\text{ }3 + 1\text{ }4 + 41\text{ } = 782$$

18. Lucy weighs three blocks in pairs.



How much do all three blocks weigh together?

A) 270 g B) 280 g C) 290 g D) 300 g E) 310 g