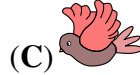
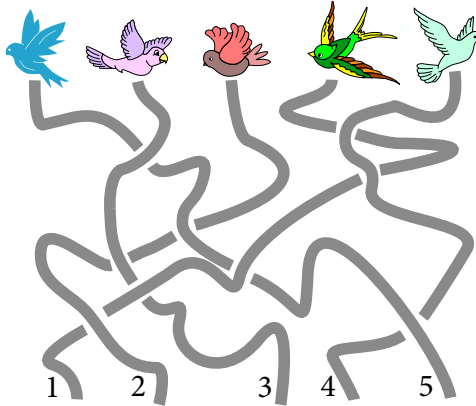


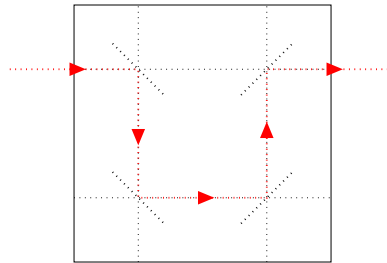
## CANADIAN MATH KANGAROO CONTEST PROBLEMS

### PART A: EACH CORRECT ANSWER IS WORTH 3 POINTS

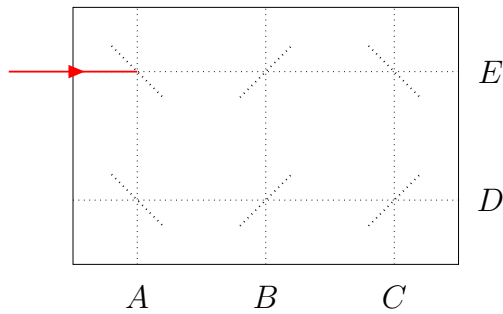
1. Which bird will end up at position 3?



2. A laser beam reflects in mirrors in the way shown in the picture.



At which letter will this laser beam exit the rectangle?



(A) A

(B) B

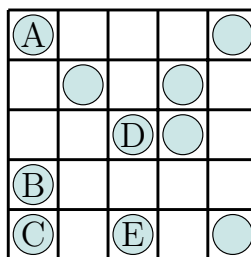
(C) C

(D) D

(E) E



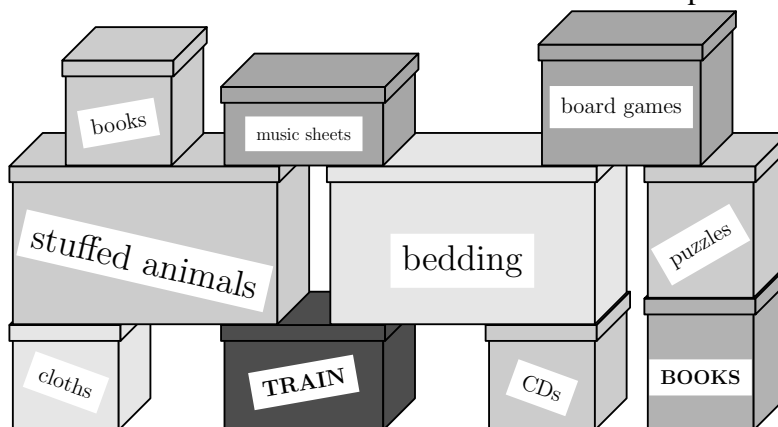
3. Rossitza has ten coins in a grid as shown.



Which coin does she need to move, so that each row and each column has exactly two coins in it?

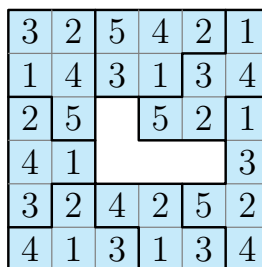
- (A) A                      (B) B                      (C) C                      (D) D                      (E) E

4. What is the smallest number of boxes that Bill has to move to be able to open the TRAIN box?



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

5. Anna makes a jigsaw where any two squares with a common side do not contain the same number.



Which piece should she use to complete her jigsaw?

- (A) 

4		
1	2	3

      (B) 

1		
3	4	2

      (C) 

2		
4	1	3

      (D) 

2		
3	1	4

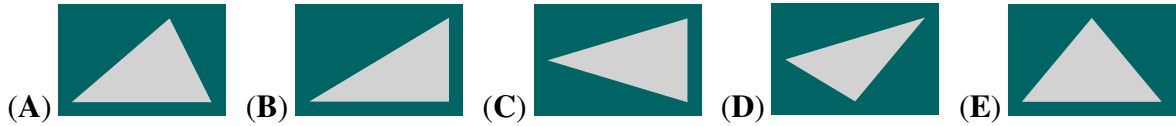
      (E) 

3		
2	1	4

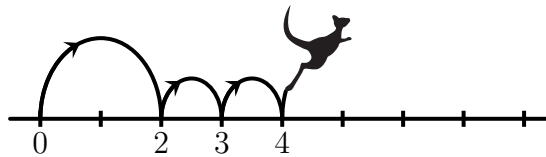
6. Mario is putting the six puzzle pieces together to make a rectangular picture.



Which picture will he get?



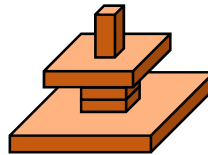
7. Kengu always makes one large jump followed by two small jumps on the number line, as shown in the picture.



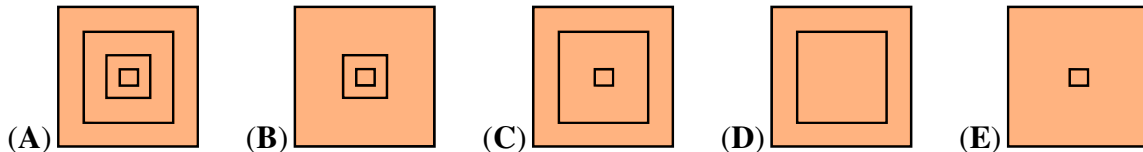
Kengu starts at 0 and ends on 11.

What is the number of jumps that Kengu makes?

- (A) 4                      (B) 7                      (C) 8                      (D) 9                      (E) 12
8. John builds the tower shown.



What will he see if he looks at his tower from above?





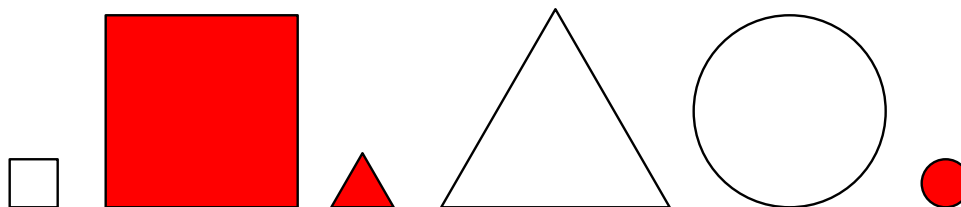
**PART B: EACH CORRECT ANSWER IS WORTH 4 POINTS**

9. Mosif wanted the sum of the three numbers in each row and in each column of the grid to be the same.

9	1	5
2	7	6
4	8	4

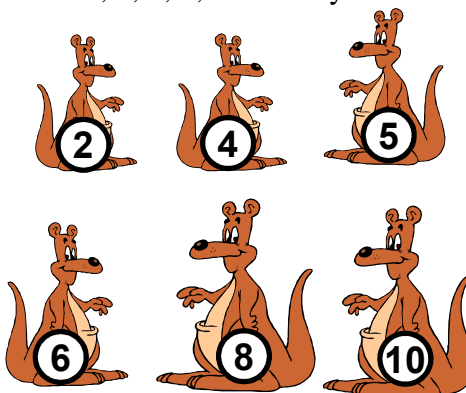
He made one mistake. Which number must he correct?

- (A) 1                      (B) 2                      (C) 5                      (D) 7                      (E) 8
10. Wanda chose a few of the following shapes and said "Amongst the shapes I have chosen, there are 3 coloured ones, 2 large ones and 2 round ones."



What is the smallest number of shapes that Wanda could have chosen?

- (A) 2                      (B) 3                      (C) 4                      (D) 5                      (E) 6
11. The ages of a family of kangaroos are 2, 4, 5, 6, 8 and 10 years.

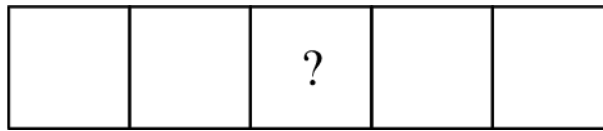


The sum of the ages of four of them is 19 years.  
What are the ages of the other two kangaroos?

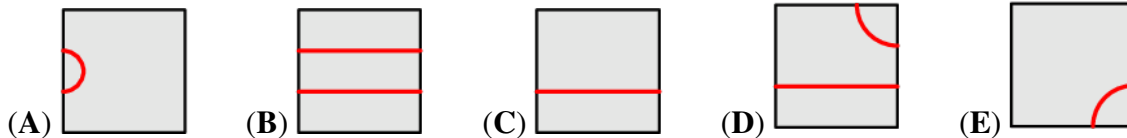
- (A) 2 and 8                      (B) 4 and 5                      (C) 5 and 8                      (D) 6 and 8                      (E) 6 and 10



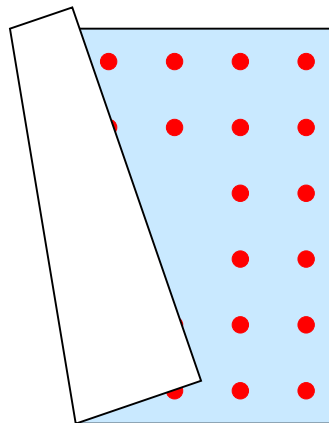
12. There are five empty cells as shown below.



You place the five tiles so the red line forms one continuous line. What tile is in the middle?



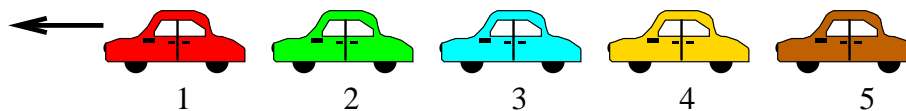
13. Aaron has a square carpet. There are the same number of dots, arranged in two lines, along each side of his carpet. Unfortunately, the carpet has folded.



How many dots are there on Aaron's carpet?

- (A) 32      (B) 36      (C) 40      (D) 44      (E) 48

14. Five cars numbered 1, 2, 3, 4 and 5 are moving in the direction indicated by the arrow.

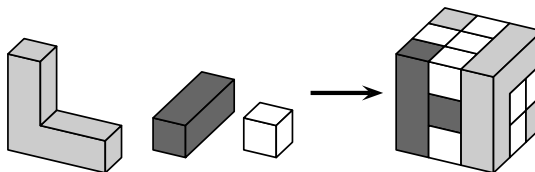


- First, the last car (5) overtakes the two cars ahead of it.
- Next, the second last car overtakes the two cars ahead of it.
- Finally, the middle car overtakes the car ahead of it.

In what order are the cars now?

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

15. The cube in the picture is built from the three kinds of wooden blocks shown.



How many white wooden blocks are used?

- (A) 8                      (B) 11                      (C) 13                      (D) 16                      (E) 19
16. In the addition shown below, some ink fell on four of the numbers so we cannot see them.

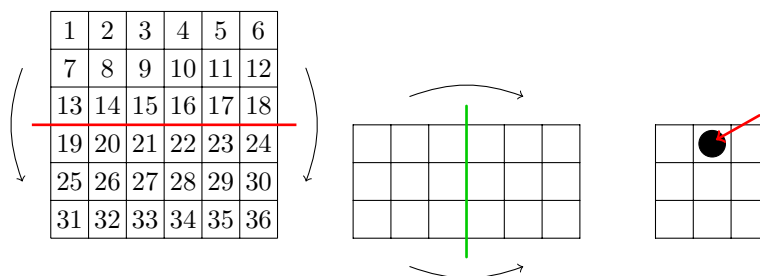
$$\begin{array}{r}
 \text{[blurred]} \text{ [blurred]} \text{ [blurred]} \\
 + \text{ [blurred]} \text{ 6 } \text{ 3} \\
 \hline
 \text{5 } \text{ 7 } \text{ 2}
 \end{array}$$

What is the sum of these four hidden numbers?

- (A) 8                      (B) 9                      (C) 11                      (D) 13                      (E) 14

**PART C: EACH CORRECT ANSWER IS WORTH 5 POINTS**

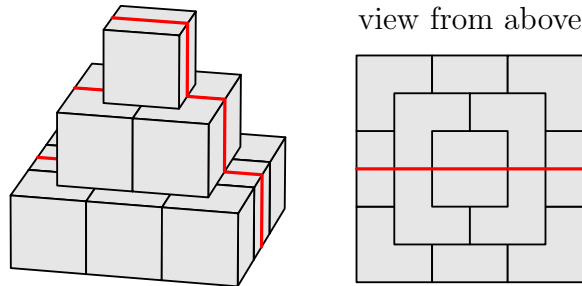
17. Joanna folds the number square twice as shown. Then she punches a hole through the black spot shown by the arrow.



Which numbers does she also punch through?

- (A) 8,11,26,29      (B) 14,17,20,23      (C) 15,16,21,22      (D) 14,16,21,23      (E) 15,17,20,22
18. Three football teams participate in a sports tournament. Each team plays the other two teams exactly once. In each game, the winning team gets 3 points and the losing team does not get any points. If the game finishes in a draw, each team gets 1 point. At the end of the tournament, which number of points is it **impossible** for any team to have?
- (A) 1                      (B) 2                      (C) 4                      (D) 5                      (E) 6

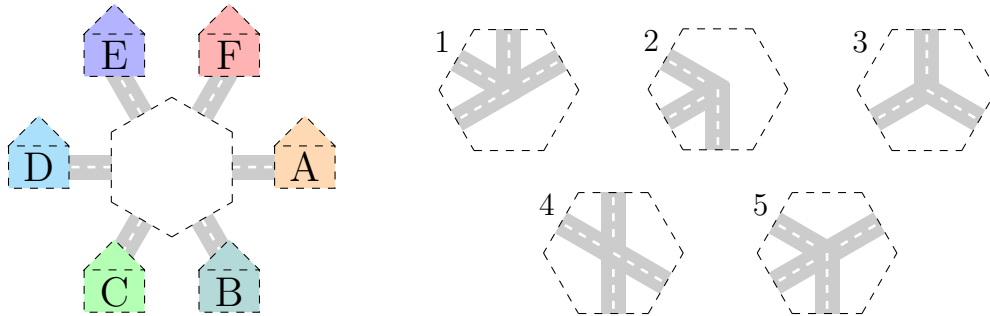
19. A pyramid is built from cubes with a side-length of 8 cm.



An ant climbed up and over the pyramid, as shown by the red line.  
 What is the length of the path walked by the ant?

- (A) 56 cm      (B) 64 cm      (C) 72 cm      (D) 80 cm      (E) 88 cm

20. Alma wants to put one of the pieces 1 to 5 in the middle of the picture so that House A is connected by road to House B and E, but not to House D. She can rotate the pieces.



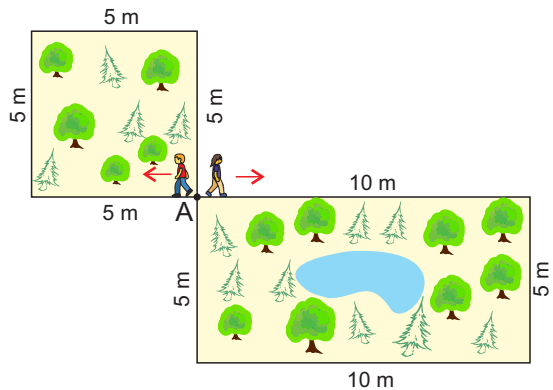
Which two pieces could she use?

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

21. Ahmad and Zhaleh start walking from point A with the same speed, in the directions shown.

Ahmad walks around the square-shaped garden.  
 Zhaleh walks around the rectangular-shaped one.

What is the smallest number of laps that Zhaleh could do around the rectangular-shaped garden to meet Ahmed at point A again?



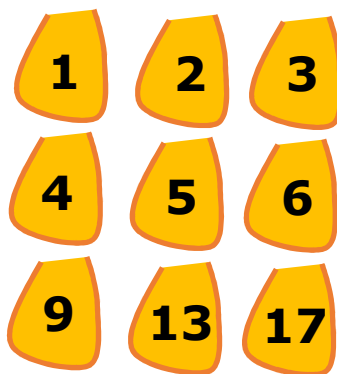
- (A) 1      (B) 2      (C) 3      (D) 4      (E) 5



22. Five children ate some plums. Sophie ate two plums more than Lauren. Betty ate three plums fewer than Sophie. Claire ate one plum more than Betty and three plums fewer than Alice. Which two girls ate the same number of plums?

- (A) Claire and Lauren.                      (B) Claire and Sophie.                      (C) Lauren and Alice.
- (D) Sophie and Alice.                      (E) Alice and Betty.

23. A farmer has nine bags with potatoes, as shown. The numbers on the bags show their weights in kilograms. He wants to split them in three groups of three bags each so that each group weighs the same as the others.



Which of the following bags will be in the same group as the bag that weighs 6 kilograms?

- (A) 2                      (B) 3                      (C) 4                      (D) 9                      (E) 13

24. Which of the following nets could be folded to a cube like this?



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



**CMKC 2022 Grade 3-4 Answers**

PART A					
1	A	<u>B</u>	C	D	E
2	A	<u>B</u>	C	D	E
3	A	B	<u>C</u>	D	E
4	A	B	<u>C</u>	D	E
5	A	B	C	<u>D</u>	E
6	<u>A</u>	B	C	D	E
7	A	B	<u>C</u>	D	E
8	A	B	<u>C</u>	D	E

PART B					
9	A	B	C	D	<u>E</u>
10	A	B	<u>C</u>	D	E
11	A	B	C	D	<u>E</u>
12	A	B	C	<u>D</u>	E
13	<u>A</u>	B	C	D	E
14	<u>A</u>	B	C	D	E
15	A	<u>B</u>	C	D	E
16	A	B	C	D	<u>E</u>

PART C					
17	A	<u>B</u>	C	D	E
18	A	B	C	<u>D</u>	E
19	A	B	<u>C</u>	D	E
20	A	B	C	D	<u>E</u>
21	A	<u>B</u>	C	D	E
22	<u>A</u>	B	C	D	E
23	A	B	C	<u>D</u>	E
24	A	<u>B</u>	C	D	E