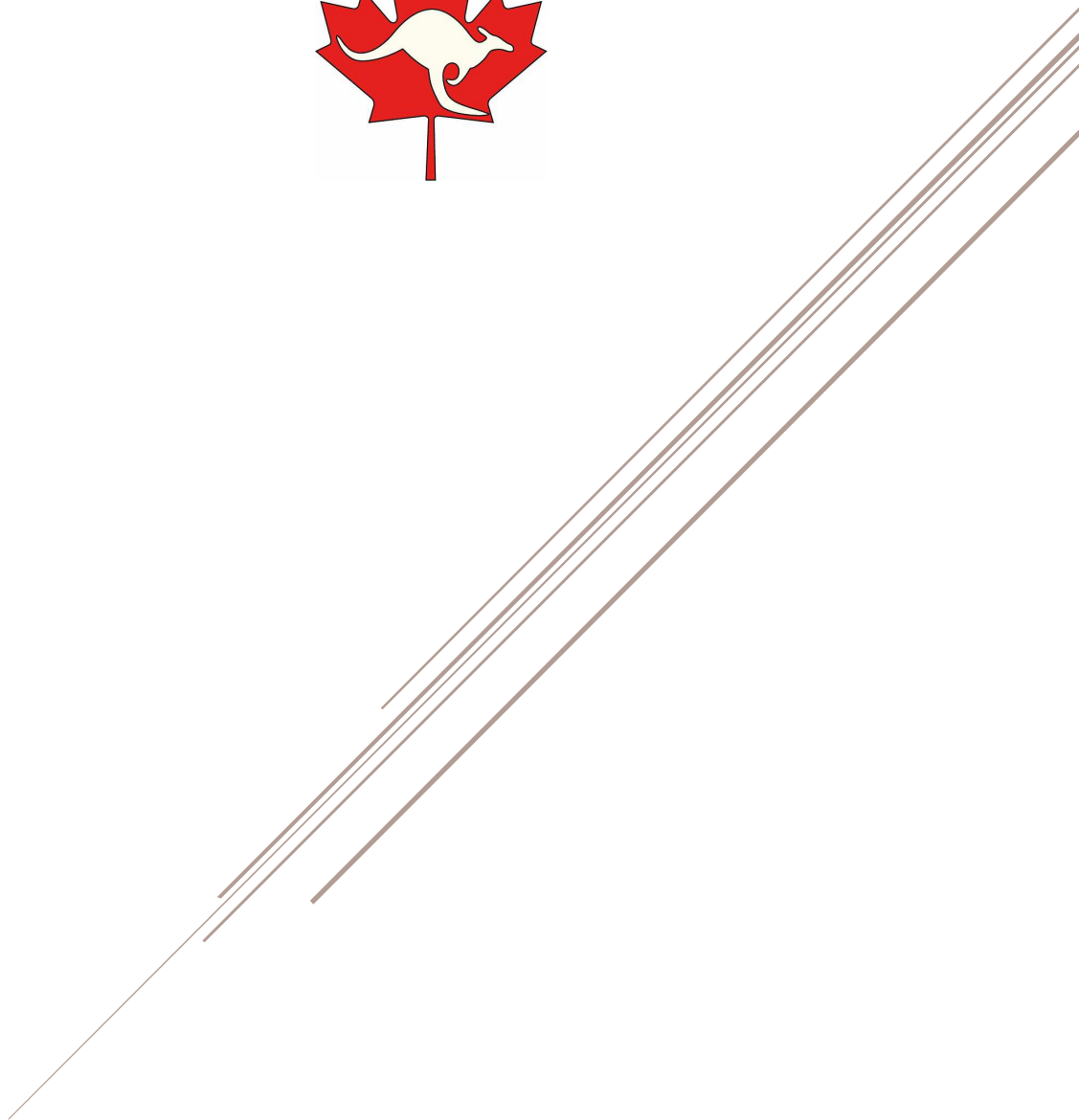# CANADIAN MATH KANGAROO CONTEST

2014 Grade 3 and 4 Questions and Answers
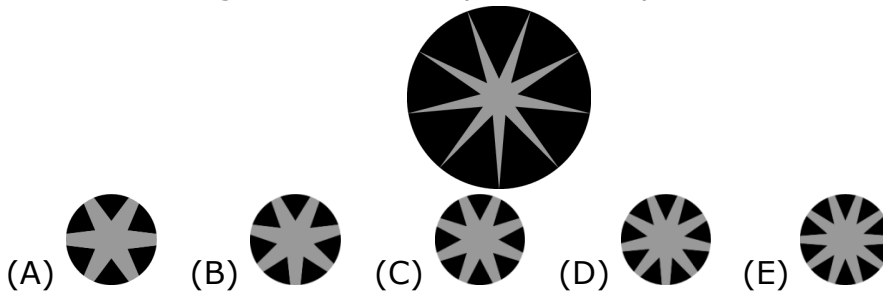
Canadian Math Kangaroo Contest
PROBLEMS

Part A: Each correct answer is worth 3 points

1. Which drawing is the central part of the picture with the star?

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

2. Jacky wants to insert the number 3 somewhere between the digits of the number 2014, to make a five-digit number that is as small as possible. Where should Jacky insert the number 3?
   (A) in front of 2014   (B) between the 2 and the 0
   (C) between the 0 and the 1   (D) between the 1 and the 4
   (E) at the end of 2014

3. When Koko the Koala is not sleeping, he eats 50 grams of leaves per hour. If Koko slept 20 hours yesterday, how many grams of leaves did he eat?
   (A) 0   (B) 50   (C) 100   (D) 200   (E) 400

4. Adam built fewer sandcastles than Martin but more than Susan. Lucy built more sandcastles than Adam and more than Martin. Dana built more sandcastles than Martin but fewer than Lucy. Who built the most sandcastles?
   (A) Martin (B) Adam   (C) Susan (D) Dana   (E) Lucy

5. Monica writes numbers in the diagram so that each number is the product of the two numbers below it. Which number should she write in the grey cell?
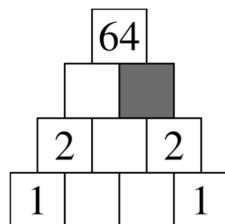
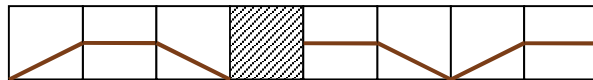   (A) 0   (B) 1   (C) 2   (D) 4   (E) 8

6. Mr. Brown has painted flowers on the store window (see the picture). What do these flowers look like from the other side of the window?

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

7. Which tile must be in the shaded square so that the line is connected?

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

8. Alice has to place different shapes in the table so that each distinct shape appears exactly once in each row and each column.

What shape should Alice place in the grey square?

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

Part B: Each correct answer is worth 4 points

9. There were some candies in a bowl. Sally took half of the candies. Then Tom took half of the candies left in the bowl. After that, Cl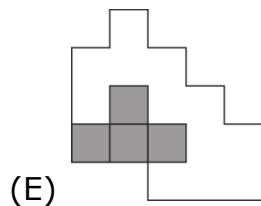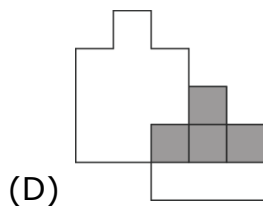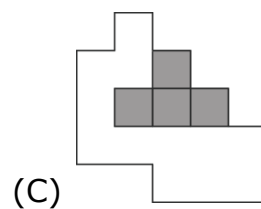ara took half of the remaining candies. In the end there were 6 candies in the bowl. How many candies were there in the bowl at the beginning?
   (A) 12   (B) 18   (C) 20   (D) 24   (E) 48

10. Ann has four pieces as shown.
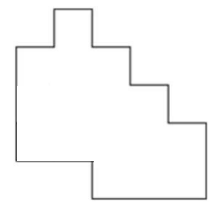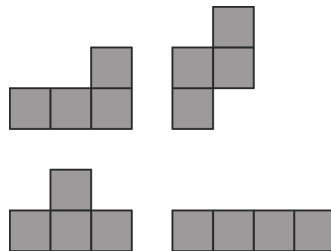
   With these pieces she can completely cover the shape: .

   Where should she put the piece ?

   (A)

   (B)

   (C)

   (D)

   (E)
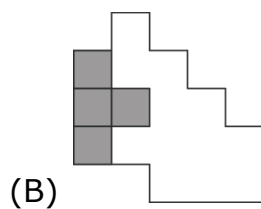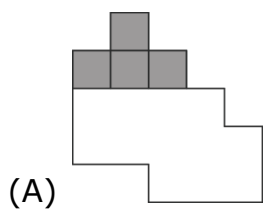
11. Which tile must be added to the picture so that the total light area is as large as the total dark area?

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

12. Mary had equal numbers of white, black and striped tokens. She used some of the tokens to make the pile shown in the figure.
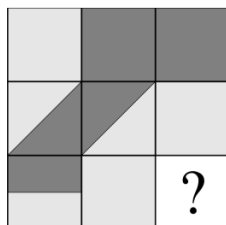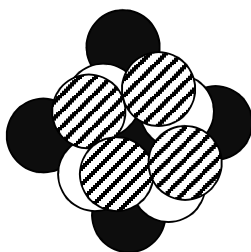

She still has five tokens which are not in the pile. How many black tokens did she have in total?

(A) 5   (B) 6   (C) 7   (D) 10   (E) 15

13. The solid in the picture was made by sticking eight equal cubes together. What does this solid look like when seen from above?
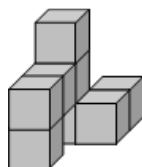
(A)   (B)   (C)   (D)   (E)

14. On planet Kangaroo, each kangyear has 20 kangmonths and each kangmonth has 6 kangweeks. How many kangweeks are there in one quarter of a kangyear?

(A) 9   (B) 30   (C) 60   (D) 90   (E) 120

15. Nick has written each of the numbers from 1 to 9 in the cells of the 3 × 3 table. Only four of these numbers can be seen in the figure. Nick has noticed that for the number 5, the sum of the numbers in the neighbouring cells equals 13 (neighbouring cells are cells sharing a side). He noticed the same applies to the number 6. Which number has Nick written in the shaded cell?

    (A) 5   (B) 6   (C) 7   (D) 8   (E) 9

16. The sum of the digits of the number 2014 is 7. How many numbers between 100 and 1000 also have 7 as the sum of their digits?
    (A) 3   (B) 18   (C) 20   (D) 28   (E) 36

Part C: Each correct answer is worth 5 points

17. Rabbit Borya likes cabbage and carrots very much. Each day, he eats either 9 carrots, or 2 heads of cabbage, or 1 head of cabbage and 4 carrots. Last week, Borya ate 30 carrots. How many heads of cabbage did he eat last week?
    (A) 6   (B) 7   (C) 8   (D) 9   (E) 10

18. Seven children are standing in a circle. No two boys are standing next to each other. No three girls are standing next to each other. How many girls are there standing in the circle?
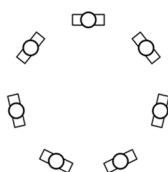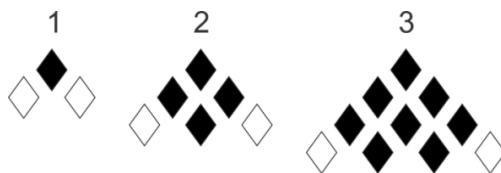

    (A) only 3   (B) 3 or 4   (C) only 4   (D) 4 or 5   (E) only 5

19. Eve arranged cards in a line as it is shown in the figure below. At each move, Eve is allowed to interchange any two cards. What is the smallest number of moves Eve needs to get the word KANGAROO?

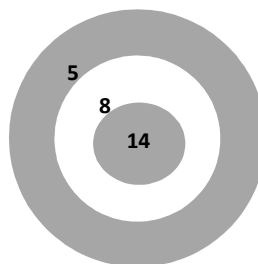   (A) 2   (B) 3   (C) 4   (D) 5   (E) 6

20. The first three stages of a pattern are shown in the picture. How many black diamonds does the figure in stage 6 have?

    (A) 19   (B) 21   (C) 26   (D) 28   (E) 34

21. Kangaroo Hamish bought toys and gave the shop-assistant 150 dollars. He received 20 dollars back. Then he changed his mind and exchanged one of the toys for another. He got back an additional 5 dollars. What toys did Hamish leave the store with?

    (A) the truck and the plane   (B) the truck and the bus
    (C) the truck and the train   (D) the motorcycle and the train
    (E) the bus, the motorcycle and the train

22. Ann threw seven darts at the dartboard, shown in the figure, and scored 32 points in total. How many darts did not hit the dartboard?

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

23. A soccer coach is selecting a team amongst players who are from 20 to 35 years old. At least how many players should be selected for the team so that, for certain, two players are of the same age?
    (A) 14   (B) 15   (C) 16   (D) 17   (E) 20

24. Four workers are building a house. In five days they built half the house. But winter is coming and they want to finish building the house in two more days. How many friends should the workers call for help, if they do not want to bother more people than is necessary?
    (A) 2   (B) 4   (C) 6   (D) 7   (E) 10

International Contest-Game
Math Kangaroo Canada, 2014

Answer Key
Grade 3-4

1	A B C **D** E	**9**	A B C D **E**	**17**	A **B** C D E
2	A B C **D** E	**10**	A B **C** D E	**18**	A B **C** D E
3	A B C **D** E	**11**	A **B** C D E	**19**	A **B** C D E
4	A B C D **E**	**12**	A **B** C D E	**20**	A B **C** D E
5	A B C D **E**	**13**	A B **C** D E	**21**	**A** B C D E
6	A B C D **E**	**14**	A **B** C D E	**22**	A **B** C D E
7	A **B** C D E	**15**	A B C **D** E	**23**	A B C **D** E
8	**A** B C D E	**16**	A B C **D** E	**24**	A B **C** D E