Contest Game
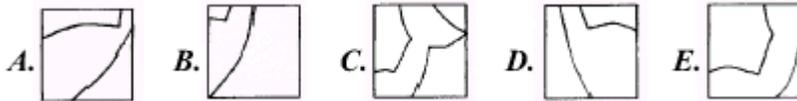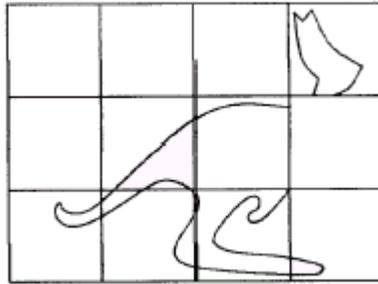## "Math Kangaroo", 2002
Grade 3-4

Part A: Each question is worth 3 points

1. Which of the squares was removed from the picture of the Kangaroo below?
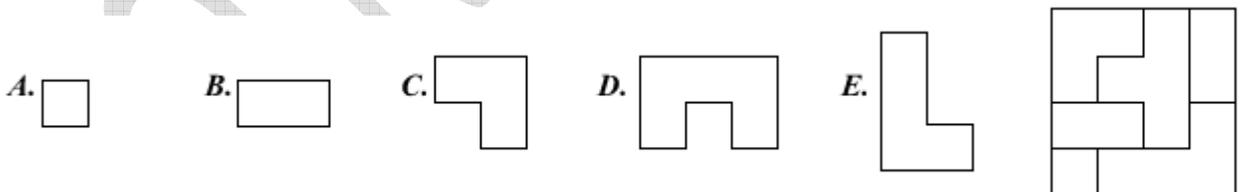

2. Calculate 2 + 2 - 2 + 2 - 2 + 2 - 2 + 2 - 2 + 2
   A. 0   *B. 2*   *C. 4*   *D. 12*   *E. 20*

3. Tim got from his friends as birthday presents 10 colour pencils, 3 matchbox cars, 4 balls, 1 book, 3 little teddy bears, and 2 chocolates. How many things did he get?
   A. 15   *B. 17*   *C. 20*   *D. 23*   *E. 27*
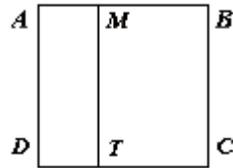
4. The square on the right was cut along the lines. Which of the shapes below was not obtained this way?

5. The human heart beats approximately 70 times per minute. How many beats approximately will it make in an hour?
   A. 42 000   *B. 7 000*   *C. 4 200*   *D. 700*   *E. 420*

6. *ABCD* is a square. Its side is equal to 10cm. *AMTD* is a rectangle. Its shorter side is equal to 3 cm.

How many centimetres is the perimeter of the square *ABCD* larger than that of the rectangle *AMTD*?

A. *14 cm.*　　　　**B.** *10 cm.*　　**C.** *7 cm.*　　　**D.** *6 cm.*　　　**E.** *4 cm.*

7. Far away we see the skyline of a castle.

Which of the pieces cannot belong to the skyline?

8. Adding 17 to the smallest two-digit number and dividing the sum by the biggest one-digit number we get:

A. *3*　　　　　**B.** *6*　　　　**C.** *9*　　　　　**D.** *11*　　　　**E.** *27*

Part B: Each question is worth 4 points

9. On one of the plates of a balance there are 6 oranges and on the other there are melons. When we put a melon exactly like the others on the orange plate, the balance is equilibrated.
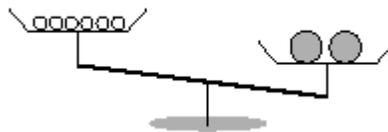

The weight of one melon is:

A. *the same as 2 oranges*　　　　**B.** *the same as 3 oranges*
C. *the same as 4 oranges*　　　　**D.** *the same as 5 oranges*
**E.** *the same as 6 oranges*

10. Joseph lives on a short street the houses on that are numbered sequentially from 1 to 24. How many times does the digit 2 occur in the numbers of those houses?
A. 2   *B. 4*   *C. 8*   *D. 16*   *E. 32*

11. The face of a clock is cracked into 4 pieces. The sums within the parts are consecutive numbers. Provided there is only one possible way to crack it, the face would look like:
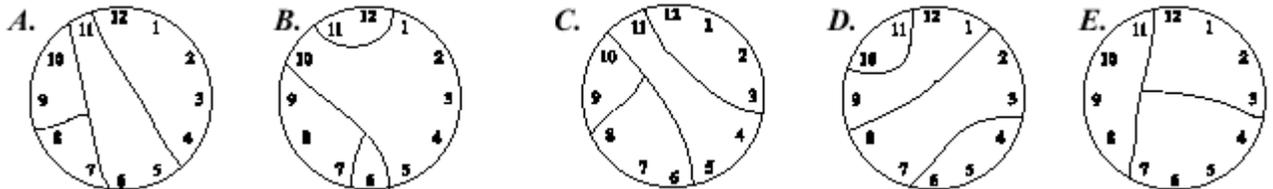
12. During a zigzag run the kangaroos Mary, Norbert and Oscar have to jump as drawn in the picture. Suppose they jump at the same speed.

Mary   Norbert   Oscar
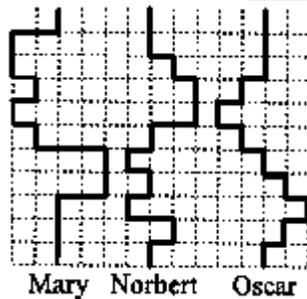
Which statement is true?
A. Mary and Oscar arrive at the same time
B. Norbert is first
C. Oscar is last
D. They all arrive at the same time
*E. Mary and Norbert arrive at the same time.*

13. Jenny, Kitty, Susan and Helen were born on March 1st, May 17th, July 20th and March 20th. Kitty and Susan were born in the same month, and Jenny's and Susan's birthdays fall on the same dates in different months. Who was born on May 17th?
A. Jenny   *B. Kitty*   *C. Susan*   *D. Helen*   *E. Impossible to determine*

14. Samantha and Vivien have 60 matches between them. Using some of them Samantha made a triangle whose sides had 6 matches each. With all the other matches Vivien made a rectangle whose one side was also 6 matches long. How many matches long was the rectangle's other side?
A. 30   *B. 18*   *C. 15*   *D. 12*   *E. 9*

15. From her window Karla looks at the wall of a house. There she can see the silhouette of a rectangular flag flying in the wind. At five different moments she draws the silhouette. Which of the 5 pictures cannot be right unless the flag is torn?
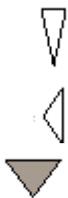

A.   B.   C.   D.   E.
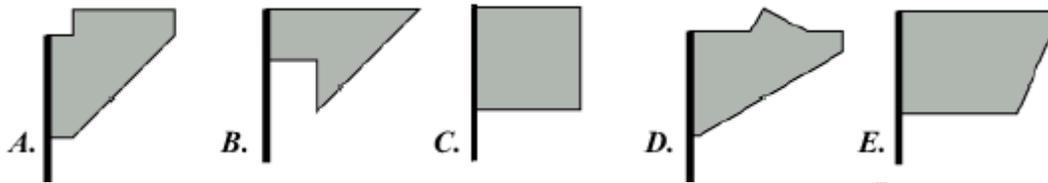
16. 28 children took part in a math league competition. The number of children who finished behind Raul was twice as large as the number of children who were more successful than him. In which place did Raul finish?
A. Sixteenth   *B. Seventeenth*   *C. Eighth*   *D. Ninth*   *E. Tenth*

Part C: Each question is worth 5 points

17. In Mesopotamia in 2500 B.C.,

This sign was used to represent 1,

This – to represent 10 and

This - to represent 60. Thus, 22 would be written like this:


How would 124 have been written?

18. Julien, Manon, Nicolas and Fabienne each have a different pet: a cat, a dog, a parrot and a goldfish. Manon has a furry animal, Fabienne owns a four-legged creature, Nicolas has a bird and Manon doesn't like cats. Which statement is *not* true?
A. Fabienne has a dog   *B. Nicolas has a parrot*   *C. Julien has a goldfish*
D. Fabienne has a cat   *E. Manon has a dog*

19. Martina leaves her house at 6:55 a.m. and arrives at school at 7:32 a.m. Her friend Dianne arrives at school at 7:45 a.m. even though she lives closer to the school and it takes her 12 minutes less than Martina to get there. When does she leave her house?
A. 7:07 a.m.   *B. 7:20 a.m.*   *C. 7:25 a.m.*   *D. 7:30 a.m.*   *E. 7:33 a.m.*

20. Robert made a tunnel using some identical cubes (fig.1). When he got bored, he rearranged the tunnel into a complete pyramid (fig.2).

fig.1   fig.2
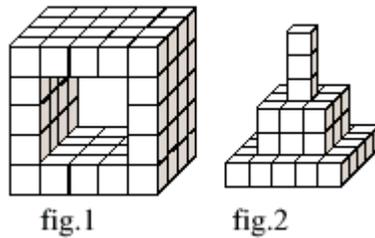
How many cubes from the original tunnel did he *not* use for the pyramid?
A. 34   **B.** 29   **C.** 22   **D.** 18   **E.** 15

21. The digits from 1 to 9 are written on 9 cards. Alex has the digits 7, 2 and 4; Martha has the digits 6, 5 and 1 and Fred has 8, 3 and 9. Each of them uses some of the four basic operations **+** (addition), **-** (subtraction), **x** (multiplication), **:** (division), and each of his own cards exactly once. Who cannot obtain 20 as a result?
A. Alex   **B.** Martha   **C.** Fred   **D.** All can get 20   **E.** Alex and Martha

22. Four friends go to a restaurant and sit down at a table. John always sits at the same spot on the table. In how many ways can the friends sit around the table?
A. 3   **B.** 4   **C.** 6   **D.** 24   **E.** 25

23. Jane's mother is making little heart-shaped cookies. For each four cookies she cuts out of the dough, there will be enough dough left to make one extra cookie. After the first cutting she had 16 cookies. How many cookies did she make altogether?
A. 5   **B.** 9   **C.** 12   **D.** 21   **E.** 24

24. The odometer of my car indicates 187569. All the digits of this number are different. After how many more kilometres will this happen again?
A. 1   **B.** 21   **C.** 431   **D.** 12431   **E.** 13776