

MATHEMATICS KANGAROO 2015

Austria - 23. 3. 2015

Level: Ecolier, Grade: 3 – 4

Name:	
School:	
Class:	

Time: 60 min.

24 Starting points

Each correct answer to questions 1. – 8.: 3 Points

Each correct answer to questions 9. – 16.: 4 Points

Each correct answer to questions 17. – 24.: 5 Points

Each question left unanswered 0 Points

Each incorrect answer $\frac{1}{4}$ of the points for the question are subtracted



Please write the letter (A, B, C, D, E) of the correct answer
in the square under the question number (1 to 24).

Write clearly and carefully!

1	2	3	4	5	6	7	8

9	10	11	12	13	14	15	16

17	18	19	20	21	22	23	24

Mathematical Kangaroo 2015

Group Ecolier (Grade 3 and 4)

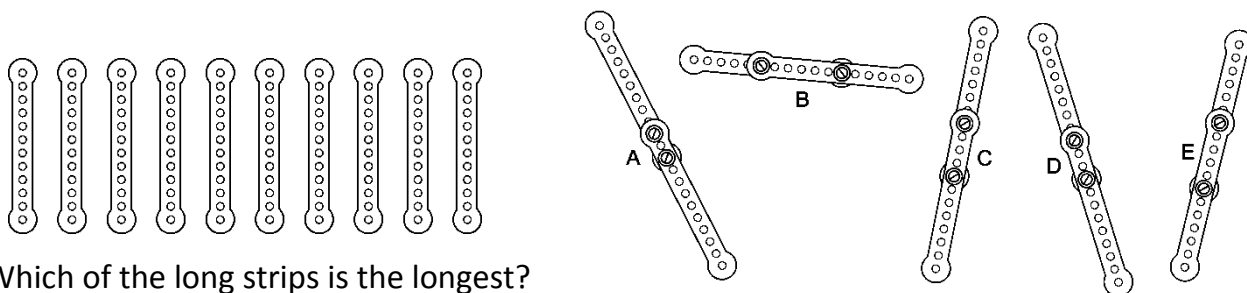
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3 point questions

1.
 (A) 6 (B) 7 (C) 8 (D) 10 (E) 15

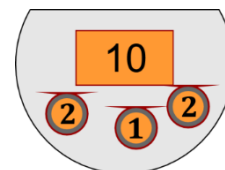
2. Florian has 10 identical metal strips, each with the same amount of holes (picture on the left). He bolts these strips in pairs. That way he gets the 5 long strips in the picture on the right.



Which of the long strips is the longest?

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

3. In kangaroo land you pay with “Kangas”. Lucy has a few Kangas in her purse. She buys a ball and pays 7 Kangas. How many Kangas does she have left over, after she has paid for the ball?



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

4. If you multiply both digits of the number 35, you get 15. How big is the sum of both digits?
 (A) 2 (B) 4 (C) 6 (D) 7 (E) 8

5. Which number is hidden behind the square?
 (A) 2 (B) 3 (C) 4 (D) 5 (E) 6

$$\color{red}\blacktriangle + 4 = 7$$

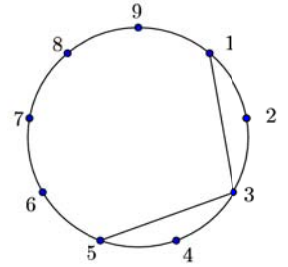
$$\color{blue}\blacksquare + \color{red}\blacktriangle = 9$$

6. The word Kangaroo is written on the top of my umbrella. Which of the 5 pictures shows my umbrella

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



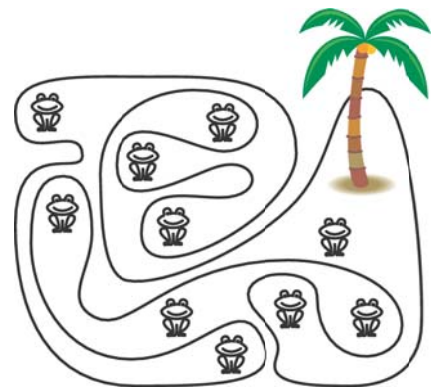
7. 9 points, numbered 1 to 9 are marked on a circle. Point 1 is joined to point 3, 3 to 5. Continue the drawing, always joining to the next but one point along. Which drawing do you get if you keep going until you get back to point 1?



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

8. In the diagram you can see a very ragged island. Some of the frogs are sitting in the water. How many are sitting on the island?

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



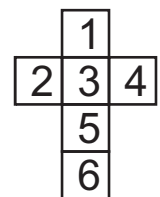
- 4 point questions -

9. Luis has got 7 apples and 2 bananas. He gives 2 apples to his friend Jacob, who gives him bananas in return. Afterwards Luis has got the same amounts of apples as bananas. How many bananas did Luis get from Jacob?

- (A) 2 (B) 3 (C) 4 (D) 5 (E) 7

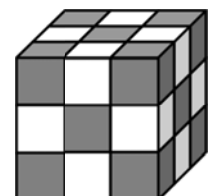
10. Julia folds the paper net pictured on the right, into a cube. Which number is on the face that is opposite to the face with the number 3?

- (A) 1 (B) 2 (C) 4 (D) 5 (E) 6



11. Jack makes a cube from 27 small cubes. The small cubes are either grey or white as shown in the diagram. Two small cubes with the same colour are not allowed to be placed next to each other. How many small, white cubes has Jack used?

- (A) 10 (B) 12 (C) 13 (D) 14 (E) 15



12. 10 runners start in a running race. At the finish, there are 3 more runners behind Thomas than there are in front of him. In which position did Thomas finish?

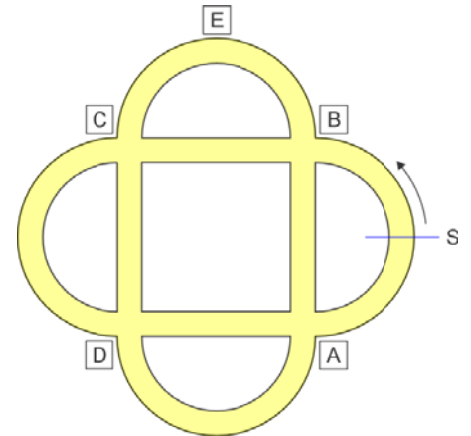
- (A) 1 (B) 3 (C) 4 (D) 6 (E) 7

13. Joseph has got a toy car, a teddy bear, a ball and a ship. He wants to put them in a new order on the shelf. The ship must be next to the car, and the teddy bear should also be next to the car. In how many different orders can he put the toys on the shelf?

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

14. Peter rides his bike along a cycle path in a park. He starts at point S and rides in the direction of the arrow. At the first crossing he turns right, then at the next left, and then again to the right and then again to left. Which crossing does he not reach?

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



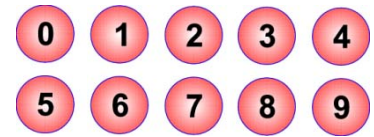
15. Two of the 5 ladybirds in the picture are always friends with each other if the difference between their number of dots is exactly 1. Today every ladybird has sent an SMS to each of their friends. How many SMS messages were sent?

- (A) 2 (B) 4 (C) 6 (D) 8 (E) 9



16. There are 10 balls, numbered 0 to 9 in a basket. John and George play a game. Each person is allowed to take three balls from the basket and calculate the total of the numbers on the balls. What is the biggest possible difference between the John and Georges totals?

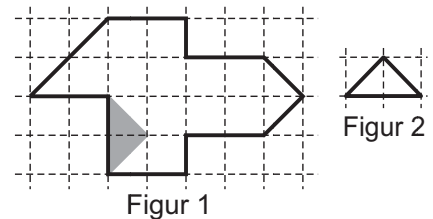
- (A) 1 (B) 12 (C) 18 (D) 19 (E) 21



- 5 point questions -

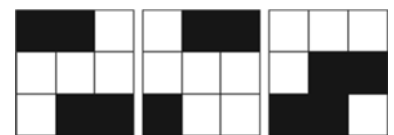
17. Luca wants to cut the shape in figure 1 into equally sized small triangles (like those in figure 2). One of these triangles is already drawn on figure 1. How many of these triangles will he get?

- (A) 8 (B) 12 (C) 14 (D) 15 (E) 16

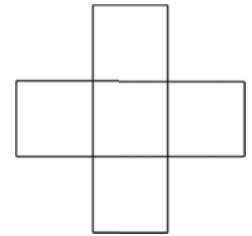


18. Some of the small squares on each of the square transparencies have been coloured black. If you slide the three transparencies on top of each other, without lifting them from the table, a new pattern can be seen. What is the maximum number of black squares which could be seen in the new pattern?

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



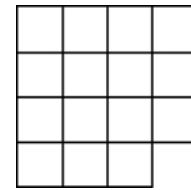
19. The numbers 1, 2, 3, 4 and 9 are written into the squares on the following figure. The sum of the three numbers in the horizontal row, should be the same as the sum of the three numbers in the vertical column. Which number is written in the middle?



- (A) 1 (B) 2 (C) 3 (D) 4 (E) 9

20. The shape in the picture is to be split into three identical pieces.

What does one of these pieces look like?

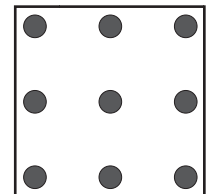


- (A) (B) (C) (D) (E) (A) 1 (B) 2 (C) 3 (D) 4 (E) 9

21. Which picture shows a single large loop?

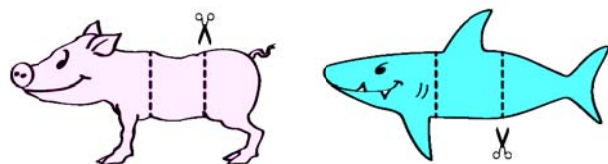
- (A) (B) (C) (D) (E) (A) 1 (B) 2 (C) 3 (D) 4 (E) 9

22. In this square there are 9 dots. The distance between the points is always the same. You can draw a square by joining 4 points. How many different sizes can such squares have?



- (A) 0 (B) 1 (C) 2 (D) 3 (E) 4

23. Thomas drew a pig and a shark. He cuts each animal into three pieces. Then he takes one of the two heads, one of the two middle sections and one of the two tails and lays them together to make another animal. How many different animals can he make in this way?



- (A) 2 (B) 3 (C) 4 (D) 5 (E) 8

24. Anna, Berta, Charlie, David and Elisa baked biscuits at the weekend. Anna baked 24, Berta 25, Charlie 26, David 27 and Elisa 28 biscuits. By the end of the weekend one of the children had twice as many, one 3 times, one 4 times, one 5 times and one 6 times as many biscuits as on Saturday. Who baked the most biscuits on Saturday?

- (A) Anna (B) Berta (C) Charlie (D) David (E) Elisa