Mathematical Kangaroo 2013
Group Écolier (Grade 3./4.)
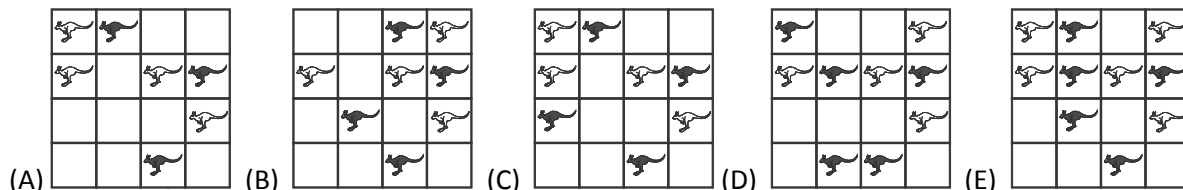# Austria - 21.3.2013

- 3 Point Questions -

1. How many more bricks does the right hand pyramid have than the left hand pyramid?

(A) 4   (B) 5   (C) 6   (D) 7   (E) 10

2. In which picture are there more black Kangaroos than white ones?

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

3. Anna has . Barbara gave Eva Josef has a

Bob has . Who is Barbara?

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

4. Elisa wrote down a sum. The same digit is hidden below each black square. Which?
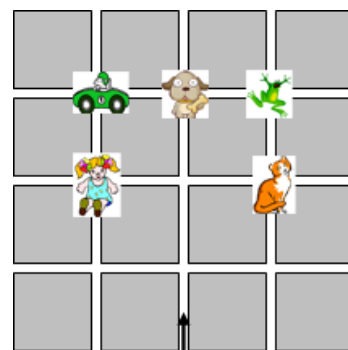
$$5\blacksquare + 5\blacksquare = 104$$

(A) 2   (B) 4   (C) 5   (D) 7   (E) 8

5. Five children are talking about the number 325. Andreas: "It is a three digit number.";
Boris: "all the digits are different."   Sara: "The digit sum is 10."
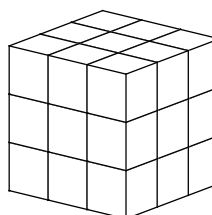Gerda: "The units digit is 5."   Daniela: "All the digits are odd."
Who has made a mistake?
(A) Andreas   (B) Boris   (C) Sara   (D) Gerda   (E) Daniela

6. Anna starts in the direction of the arrow. At each crossing she turns either right or left. At the first crossing she turns right, at the next left, then left again, then right, then left and left again. What will she find at the next crossing that she comes to?
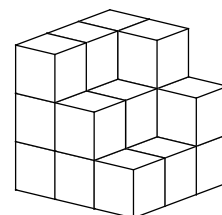

(A)   (B)   (C)   (D)   (E)

7. Nathalie wanted to build a large cube out of lots of small cubes, just like in picture 1. How many cubes are missing from picture 2 that would be needed to build the large cube?
(A) 5   (B) 6   (C) 7   (D) 8   (E) 9

Picture 1   Picture 2

8. The rectangular mirror has broken. Which piece is missing?

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

9. How many triangles can be seen in the picture on the right? (Be careful! A triangle can be also be made by joining several smaller triangles together.)
(A) 9   (B) 10   (C) 11   (D) 13   (E) 12

10. Veras Mum has made sandwiches, each using two slices of bread. There are 24 slices in a pack. How many sandwiches can she make with two whole and one half packets of bread?
(A) 6   (B) 12   (C) 24   (D) 30   (E) 48

11. Daniel had 36 sweets. He shared them equally between his siblings. How many siblings can he definitely not have?
(A) 2   (B) 3   (C) 4   (D) 5   (E) 6

12. Pinocchios nose is 9cm long. If he lies his nose grows by 6cm. If he tells the truth it shortens by 2cm. He tells three untruths and twice the truth. How long is Pinocchios nose now?
(A) 14 cm   (B) 15 cm   (C) 19 cm   (D) 23 cm   (E) 31 cm

13. Which of the following pieces can be joined to the one pictured so that a rectangle is formed?

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

14. In a shop you can buy oranges in bags of 4 or bags of 10. Pedro wants to buy exactly 48 oranges. What is the smallest number of bags he must buy?
(A) 8   (B) 7   (C) 6   (D) 5   (E) 4

15. At the London 2012 Olympic games the USA won the most medals:
46 Gold-, 29 Silver- and 29 Bronze medals. China was second with 38 Gold-, 27 Silver- and 23 Bronze medals. How many more medals did the USA win than China?
(A) 6   (B) 14   (C) 16   (D) 24   (E) 26

16. 30 children took part in a sports competition, in the sports football and handball. 15 took part in football and 20 took part in handball. How many students took part in both sports?
(A) 25   (B) 15   (C) 30   (D) 10   (E) 5

17. The number 35 has the property that it can be divided by its unit digit, because 35 divided by 5 is exactly 7. The number 38 does not have this property. How many numbers bigger than 21, but smaller than 30 have this property?
(A) 2   (B) 3   (C) 4   (D) 5   (E) 6

18. In February 2013 Schnurrli the tomcat slept for exactly three weeks. For how many hours in this month was he awake?
(A) 168   (B) 192   (C) 216   (D) 240   (E) 504

19. Andi, Betti, Clara and Dani were born in the same year. Their birthdays are on the 20th February, 12th April, 12th May and 25th May, but not necessarily in that order. Betti and Andi were born in the same month. Andi and Clara were born on the same day in different months. Who is the oldest?

(A) Andi   (B) Betti   (C) Clara   (D) Dani
(E) There is not enough information to answer the question.

20. If I join the midpoints of the sides of the large triangle in the picture, a small triangle is formed. If I join the midpoints of the sides of this small triangle, a tiny triangle is formed. How many of these tiny triangles can fit into the largest triangle at the same time?

(A) 5   (B) 8   (C) 10   (D) 16   (E) 32
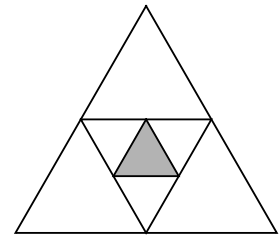
21. Chrissi wants to sell 10 glass marbles which each have a different weight. Their weights are: 1 dag, 2 dag, 3 dag, 4 dag, 5 dag, 6 dag, 7 dag, 8 dag, 9 dag and 10 dag. They should be packed into bags two at a time, so that each bag has the same weight. Which two marbles will be put into the same bag?

(A) 3 and 6   (B) 3 and 7   (C) 3 and 8   (D) 3 and 9   (E) 3 and 10

22. Baris has a few dominoes as shown in the picture. He wants to lay them in a line according to the rules of dominoes, that is that two dominoes can only be laid together if the neighbouring squares have the same number of dots in them. What is the biggest number of these dominoes that he can lay in a single line?
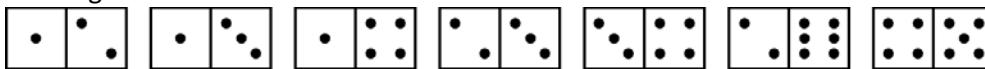
(A) 3   (B) 4   (C) 5   (D) 6   (E) 7

23. Peter has bought a rug that is 36 dm wide and 60 dm long. On the rug you can see squares that contain either a sun or a moon, as shown in the picture. As you can see there are exactly nine squares along the width of the rug. The total length of the rug cannot be seen. How many moons would you see, if you could see the entire rug?

(A) 68   (B) 67   (C) 65   (D) 63   (E) 60
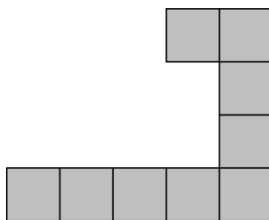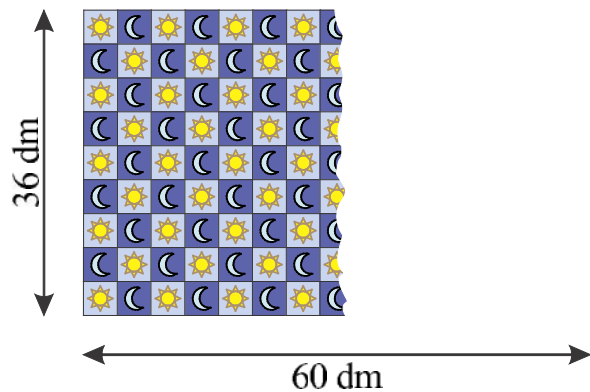
24. Beatrice has a few grey tiles that all look exactly like the one pictured. At least how many of these tiles does she need in order to make a complete square? (A) 3   (B) 4   (C) 6   (D) 8   (E) 16