Känguru der Mathematik 2016
Level Ecolier (Grade 3 and 4)
Österreich – 17.03.2016

- **3 Points Questions** -

1. Amy, Bert, Carl, Doris and Ernst each throw two dice. Who has got the biggest total altogether?

Amy   Bert   Carl   Doris   Ernst
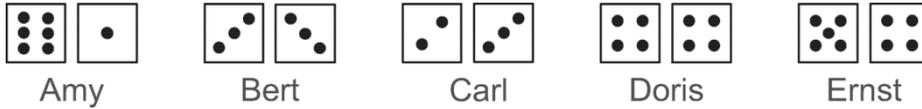
(A) Amy   (B) Bert   (C) Carl   (D) Doris   (E) Ernst

2. A kangaroo is 7 weeks and 2 days old. In how many days is it 8 weeks old?

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

3.
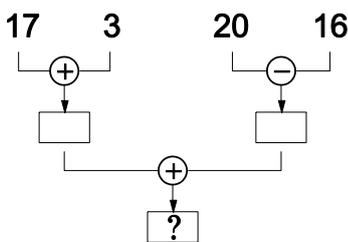
17   3   20   16   What is the final result?

17 + 3, 20 − 16, then +

(A) 24   (B) 28   (C) 36   (D) 56   (E) 80

4. Clown Pipo looks like this: He looks at himself in the mirror. Which picture does he see?
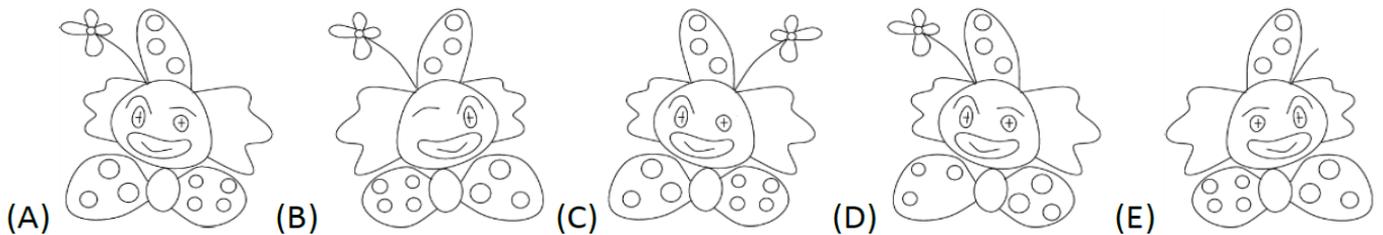
(A)   (B)   (C)   (D)   (E)

5. Georg goes to the circus with his father. They have the seat numbers 71 and 72. Which arrow do they have to follow to get to their seats?

(A) ⬆   (B) ➡   (C) ⬅   (D) ⬈   (E) ⬉

⬆	Seat 1 to 20
➡	Seat 21 to 40
⬅	Seat 41 to 60
⬈	Seat 61 to 80
⬉	Seat 81 to 100

6. Anna has shared her apples fairly between herself and her five girlfriends. Each girl has received half an apple. How many apples did Anna have to start with?

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

7. Part of a rectangle is hidden by a curtain. The hidden part is a

(A) triangle   (B) square   (C) hexagon   (D) circle   (E) rectangle
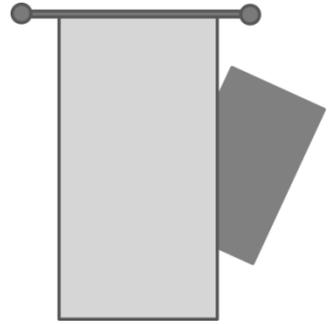
8. Which of the following sentences fits to the picture?
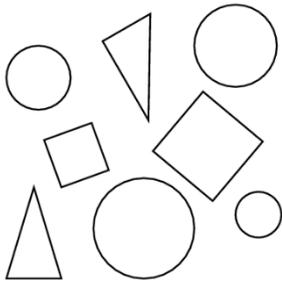
(A) There are equally many circles as squares.

(B) There are fewer circles than triangles.
(C) There are twice as many circles as triangles.
(D) There are more squares than triangles.
(E) There are two more triangles than circles.

- **4 Points Questions** -

9. If you add up the digits of the year 2016 (2+0+1+6), the result is 9. What is the next year after 2016, for which the sum of the digits is 9 again?

(A) 2007   (B) 2025   (C) 2034   (D) 2108   (E) 2134

10. A mouse wants to escape a labyrinth. On her way out she is only allowed to go through each opening once at most. How many different ways can the mouse choose to go to get outside?
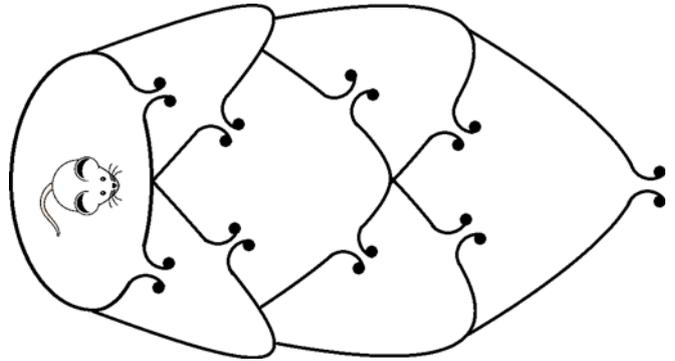
(A) 2   (B) 4   (C) 5   (D) 6   (E) 7

11. Peter wants to guess Paul's password. He already knows the following: The three last characters are digits. There are at most three capital letters in the password. Which of the following passwords could be Paul's?

(A) PAUL123   (B) P0a1u2L3   (C) 1234LLuuaapp4321   (D) Paulin3   (E) 123PAUL

12. In the middle of the big diagram one piece is missing and should be replaced. You are only allowed to do this by connecting light-grey lines with light-grey lines, dark-grey lines with dark-grey lines and black lines with black lines. Which piece fits?
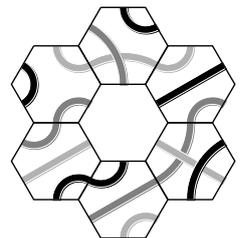
(A)   (B)   (C)   (D)   (E)

13. Five children each have a black square, a grey triangle and a white circle made up of paper. The children place the three shapes on top of each other as seen in the pictures. In how many pictures was the triangles placed after the square?
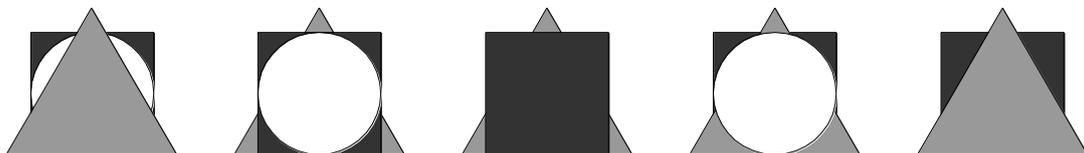
(A) 0   (B) 1   (C) 2   (D) 3   (E) 4

14. Konrad dries mushrooms. From 4 kg of fresh mushrooms he gets 1 kg of dried mushrooms. How many kilograms of mushrooms does he have to pick in order to receive 4 kg of dried mushrooms?

(A) 12 kg   (B) 16 kg   (C) 20 kg   (D) 25 kg   (E) 50 kg

15. Chantal has placed numbers in two of the nine cells (see diagram). She wants to place the numbers 1, 2, 3 in every row and every column exactly once. How big is the sum of the two numbers in the grey cells?

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

16. Hannes has a game board with 11 spaces. He places one coin each on eight spaces that lie next to each other. He can choose on which space to place his first coin. No matter where Hannes starts some spaces will definitely be filled. How many spaces will definitely be filled?
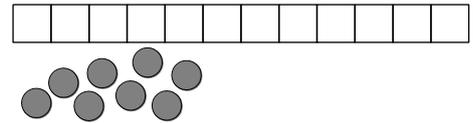
(A) 1   (B) 2   (C) 4   (D) 5   (E) 6

17. A card has a diagram printed on one side and the other side is plain white. The card is first flipped over to the left and then upwards (see diagram). Which picture do you get this way?
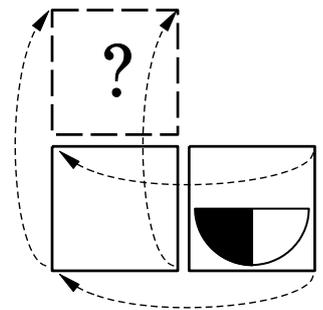
(A)   (B)   (C)   (D)   (E)

18. Tick, Trick and Track are triplets. Their brother Franz is exactly 3 years older. All four children are having their birthdays today. How old can the four brothers be altogether?

(A) 25   (B) 27   (C) 29   (D) 30   (E) 60

19. In a magic garden there are magic trees. On each tree there are either 6 pears and 3 apples or 8 pears and 4 apples. In total there are 25 apples on the magic trees. How many pears in total are hanging on the magic trees altogether?

(A) 35   (B) 40   (C) 45   (D) 50   (E) 56

20. Lisa's dogs have 18 more legs than noses. How many dogs does Lisa have?

(A) 4   (B) 5   (C) 6   (D) 8   (E) 9

21. Karin wants to place five bowls on a table so that they are ordered according to their weight. She has already placed the bowls Q, R, S and T in order, where Q is lightest and T is heaviest. Where does she have to place bowl Z?
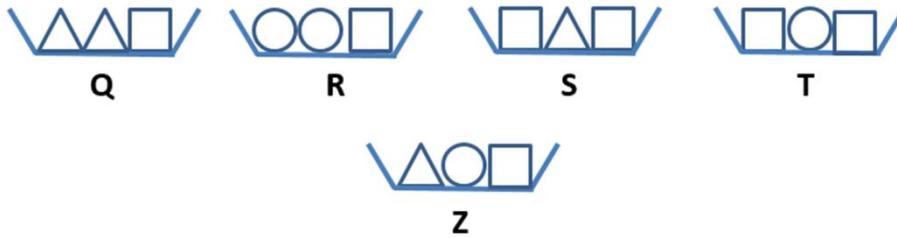
(A) to the left of bowl Q　　　　　(B) between bowls Q and R
(C) between bowls R and S　　　　(D) between bowls S and T
(E) to the right of bowl T

22. Eva writes seven numbers on a piece of paper, one of which is 201. She adds up these seven numbers and gets 2016. Now she substitutes the 201 by the number 102 and again adds up the seven numbers. Which result does she get now?

(A) 1815　　　(B) 1914　　　(C) 1917　　　(D) 2115　　　(E) 2118

23. Leo has built a stick made up of 27 building blocks.
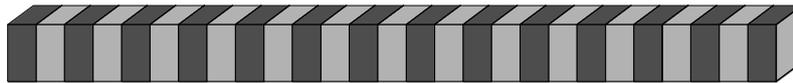
He splits the stick into two pieces in a way so that one part is twice as long as the other. He keeps repeating this again and again. He takes one of the two pieces and splits it up so that one piece is twice as long as the other. Which of the following pieces can never result in this way?

(A) 2　(B) 4　(C) 6　(D) 8　(E) 10
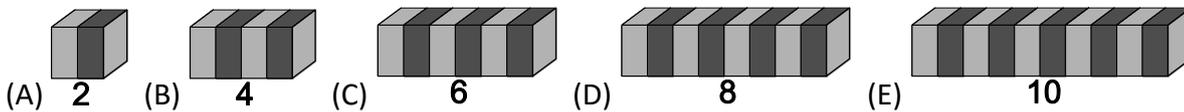
24. Five sparrows on a rope look in one or the other direction (see diagram). Every sparrow whistles as many times as the number of sparrows he can see in front of him. Azra therefore whistles four times. Then one sparrow turns in the opposite direction and again all sparrows whistle according to the same rule. The second time the sparrows whistle more often in total than the first time. Which sparrow has turned around?

Azra　　Bernhard　　Christa　　David　　Elsa
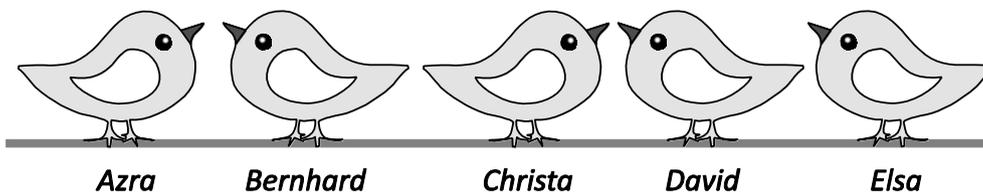
(A) Azra　　(B) Bernhard　　(C) Christa　　(D) David　　(E) Elsa