

# KÄNGURU DER MATHEMATIK 2017

## 16. 3. 2017

Level: Ecolier, Grade: 3 and 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



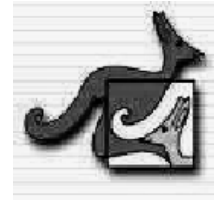
Please write the letter (A, B, C, D, E) of the correct answer in the square under the question number (1 to 24). Write clearly and carefully!

|           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>1</b>  | <b>2</b>  | <b>3</b>  | <b>4</b>  | <b>5</b>  | <b>6</b>  | <b>7</b>  | <b>8</b>  |
|           |           |           |           |           |           |           |           |
|           |           |           |           |           |           |           |           |
| <b>9</b>  | <b>10</b> | <b>11</b> | <b>12</b> | <b>13</b> | <b>14</b> | <b>15</b> | <b>16</b> |
|           |           |           |           |           |           |           |           |
|           |           |           |           |           |           |           |           |
| <b>17</b> | <b>18</b> | <b>19</b> | <b>20</b> | <b>21</b> | <b>22</b> | <b>23</b> | <b>24</b> |
|           |           |           |           |           |           |           |           |

# Känguru der Mathematik 2017

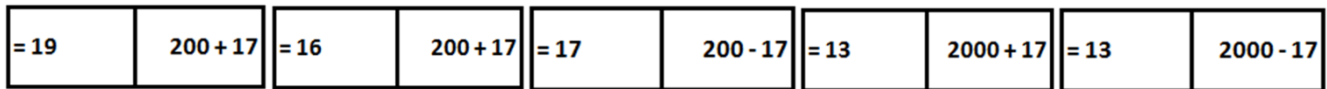
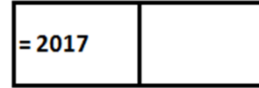
## Level Ecolier (Grade 3 and 4)

### Österreich – 16. 3. 2017



#### - 3 Points Questions -

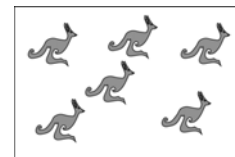
1. Which one of the domino piece's A to E has to be placed in between the shown pieces, so that both calculations are correct?



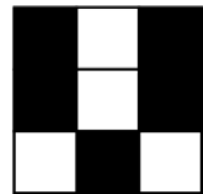
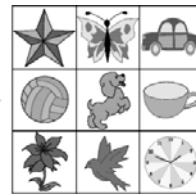
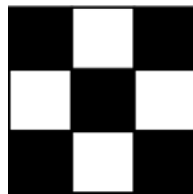
- (A) (B) (C) (D) (E)

2. If John looks out the window he can see half of the kangaroos in the park. How many kangaroos in total are there in the park?

- (A) 6 (B) 7 (C) 8 (D) 12 (E) 14



3. Two square sheets are made up of see-through and black little squares. Both are placed on top of each other onto the sheet in the middle. Which shape can then still be seen?



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

4. The left picture rotated. The right picture shows the new position after the rotation.



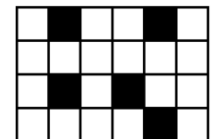
Which footprints are missing after the rotation?



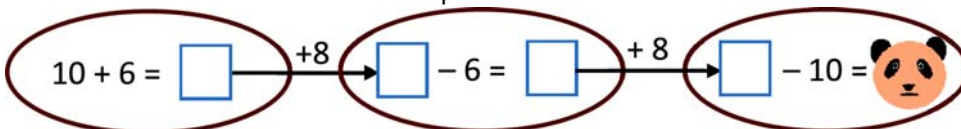
- (A) (B) (C) (D) (E)

5. How many white squares need to be coloured in black, so that there are exactly twice as many white squares as there are black squares?

- (A) 1 (B) 3 (C) 8 (D) 12 (E) 16



6. Which number is hidden behind the panda?



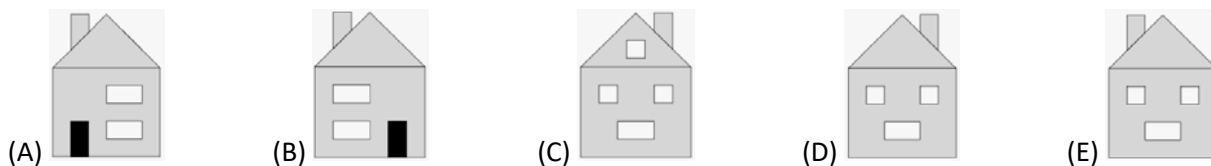
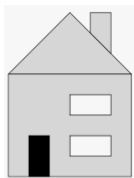
- (A) 16 (B) 18 (C) 20 (D) 24 (E) 28

7. The following picture shows a necklace with six pearls: Which of the following diagrams shows the same necklace?



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

8. This picture shows you Anna's house from the front:  
At the back it has three windows but no door.  
Which picture shows Anna's house from the back?



**- 4 Points Questions -**

9. Every box shows the result of the addition of the numbers on the very left and on the very top (for example:  $6 + 2 = 8$ ). Which number is written behind the question mark?  
(A) 10 (B) 11 (C) 12 (D) 13 (E) 15

|   |    |    |    |
|---|----|----|----|
|   | 11 | 7  | 2  |
| 6 | 17 | 13 | 8  |
|   |    | ?  | 10 |

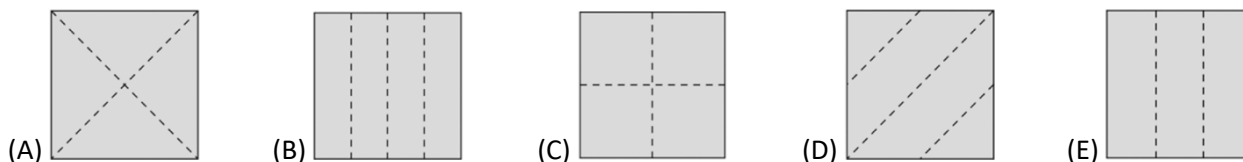
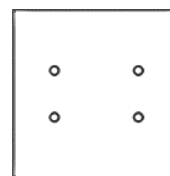
10. Four apples and one pear weigh as much as three pears.  
What is therefore correct?

- (A) One pear weighs as much as one apple. (B) Three apples weigh as much as one pear.  
(C) Three pears weigh as much as one apple. (D) Two pears weigh as much as one apple.  
(E) Two apples weigh as much as one pear.

11. Balloons are sold in packages of 5, 10 or 25 pieces each. Marius buys exactly 70 balloons.  
What is the minimum number of packages he has to buy?

- (A) 3 (B) 4 (C) 5 (D) 6 (E) 7

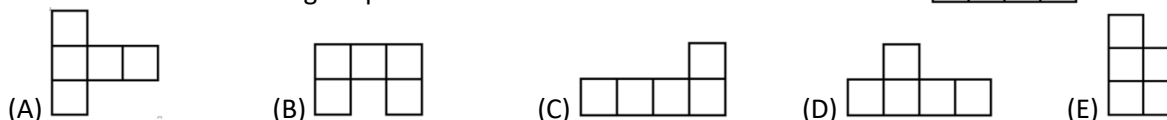
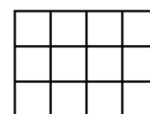
12. Bob folds a piece of paper, then punches a hole into the paper and unfolds it again. The unfolded paper then looks like this:  
Along which dotted line has Bob folded the paper beforehand?



13. 13 children registered for a competition. Then another 19 joined. Six equally big teams are needed for the competition.

- How many more children are needed, so that six equally big teams can be formed?  
(A) 1 (B) 2 (C) 3 (D) 4 (E) 5

14. Ben wants to cut out two identical pieces out of the  $4 \times 3$  grid.  
For which of the following shapes can he not achieve that?



15. David has a stove with two hobs on which he wants to prepare five different dishes.

The dishes need 40 min, 15 min, 35 min, 10 min and 45 min until they are fully cooked.

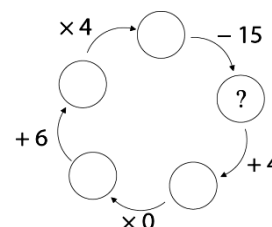
He wants to spend as little time in the kitchen as possible but is only allowed to take dishes off the hob when they are fully cooked.

How long does he need for the preparation?

- (A) 60 min (B) 70 min (C) 75 min (D) 80 min (E) 85 min

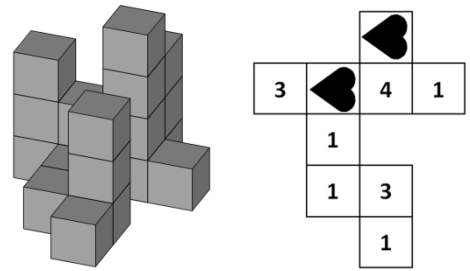
16. Which number must be written into the circle with the question mark so that the calculation is correct?

- (A) 8 (B) 9 (C) 10 (D) 11 (E) 12

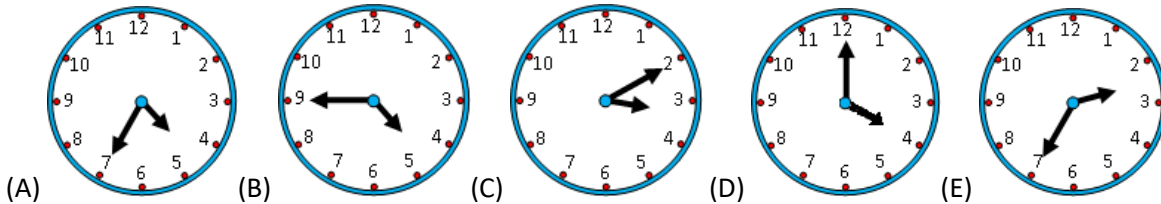


**- 5 Points Questions -**

17. Max builds this construction using some small equally big cubes. If he looks at his construction from above, the plan on the right tells the number of cubes in every tower. How big is the sum of the numbers covered by the two hearts?
- (A) 3      (B) 4      (C) 5      (D) 6      (E) 7



18. Georg starts his training at 5 o'clock in the afternoon. It takes him 5 minutes to get to the bus stop. The bus journey takes 15 minutes. Then he has to walk for 5 minutes to get to the pitch. The bus comes at 6 o'clock in the morning for the first time and then every 10 minutes. What is the latest possible time he has to leave the house in order to be at the pitch on time?



19. Four brothers have eaten 11 biscuits altogether. Everyone has eaten at least one biscuit but all of them have eaten a different amount of biscuits. Three of the brothers ate 9 biscuits altogether, where one of them got exactly 3 biscuits. How many biscuits did the boy who had the most biscuits eat?
- (A) 3      (B) 4      (C) 5      (D) 6      (E) 7

20. A number is written into every square of a 4 x 4 table. Mary is looking for the 2 x 2 table where the sum of the four numbers is greatest. How big is this sum?
- (A) 11      (B) 12      (C) 13      (D) 14      (E) 15

|   |   |   |   |
|---|---|---|---|
| 1 | 2 | 1 | 3 |
| 4 | 1 | 1 | 2 |
| 1 | 7 | 3 | 2 |
| 2 | 1 | 3 | 1 |

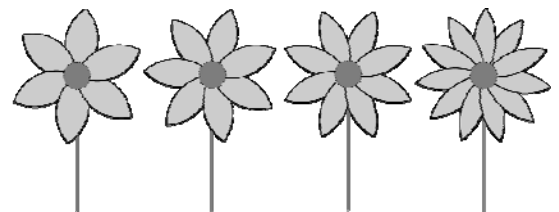
21. Five boys share 10 bags of marbles between themselves. Everyone gets exactly two bags:



- Alex gets 5 marbles, Bob 7, Charles 9 and Dennis 15. Eric gets the two bags that are left over. How many marbles does he get?
- (A) 9      (B) 11      (C) 13      (D) 17      (E) 19

22. A small zoo has a giraffe, an elephant, a lion and a turtle. Susi wants to visit exactly two of the animals today but does not want to start with the lion. How many different possibilities does she have, to visit the two animals one after the other?
- (A) 3      (B) 7      (C) 8      (D) 9      (E) 12

23. Kate has four flowers, which have 6, 7, 8 and 11 petals respectively. She now tears off one petal from each of three different flowers. She repeats this until it is no longer possible to tear off one petal from each of three different flowers. What is the minimum number of petals left over?
- (A) 1      (B) 2      (C) 3      (D) 4      (E) 5



24. Leonie has hidden a Smiley behind some of the grey boxes. The numbers state how many Smileys there are in the neighbouring boxes. Two boxes are neighbouring if they have one side or one corner in common. How many Smileys has Leonie hidden?
- (A) 4      (B) 5      (C) 7      (D) 8      (E) 11

|   |   |   |  |
|---|---|---|--|
|   | 3 | 3 |  |
| 2 |   |   |  |
|   |   | 2 |  |
|   | 1 |   |  |