KÄNGURU DER MATHEMATIK 2023
16. 3. 2023
Level: Écolier, Grade: Schulstufe 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 questions left unanswered: 0 points
each incorrect answer: minus ¼ of the points for the question

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

pwc

Information über den Känguruwettbewerb: www.kaenguru.at

LIVEWORKSHEETS

Känguru der Mathematik Österreich – 16. 3. 2023 Level Écolier (Schulstufe 3 and 4)	Name:

- 3 Point Examples -

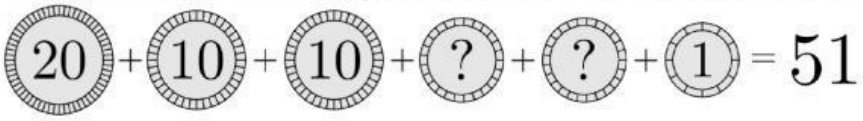
1. Five children each light a candle at the same time. Lisa blows out the candles at different times. Now they look as shown in the picture.



Which candle did Lisa blow out first?

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

2. The two markers with a question mark have the same value.

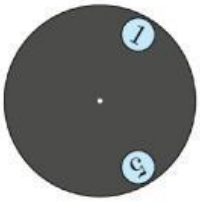


Which value do you have to use instead of the question mark so that the calculation is correct?

(A) 1 (B) 2 (C) 5 (D) 10 (E) 20

3. A black disc with two holes is placed on top of a dial of a watch.



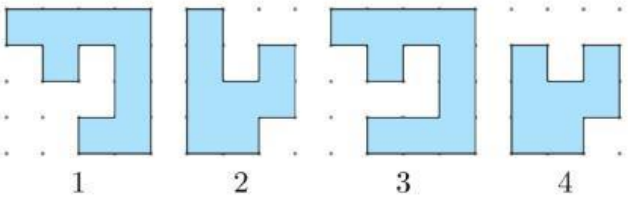


The black disc is turned.

Which two numbers can be seen at the same time?

(A) 4 and 9 (B) 5 and 10 (C) 5 and 9 (D) 6 and 9 (E) 7 and 12

4. Alice has these four jigsaw pieces:

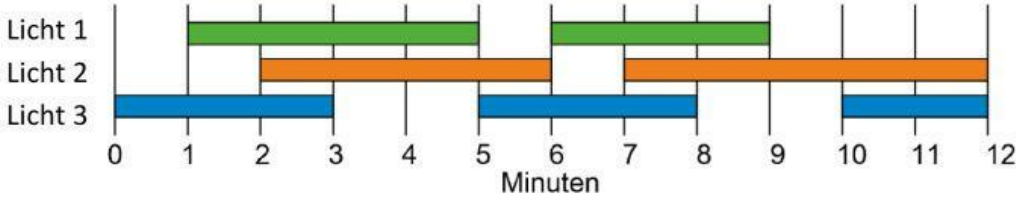


Which two can she put together to form this square?



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

5. Maria switches the lights on and off according to the given plan.

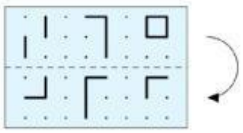


For how many minutes in total are there exactly two lights on at the same time?

(A) 2 (B) 6 (C) 8 (D) 9 (E) 10

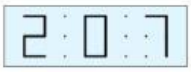
LIVEWORKSHEETS

6. Christoph folds a see-through piece of foil along the dashed line.



What can he then see?

(A) 

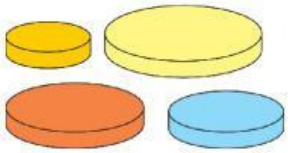
(B) 

(C) 

(D) 

(E) 

7. Anna has four discs of different sizes. She wants to build a tower using 3 discs.
A smaller disc always has to lie on top of a bigger disc.



How many ways are there for Anna to build this tower?

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

8. Daniel sticks these two pieces of paper  on this black circle: 
The two pieces of paper are not allowed to overlap.

Which picture does he get?

(A) 

(B) 

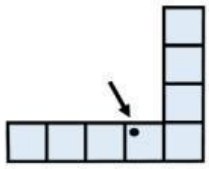
(C) 

(D) 

(E) 

- 4 Point Examples -

9. Using the pieces A, B, C, D and E one can fill this shape completely:



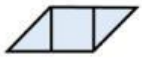
Which of the pieces lies on the dot?

(A) 

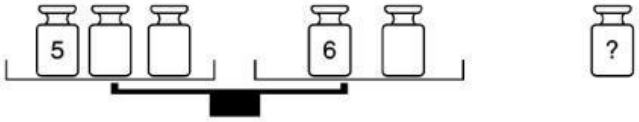
(B) 

(C) 

(D) 

(E) 

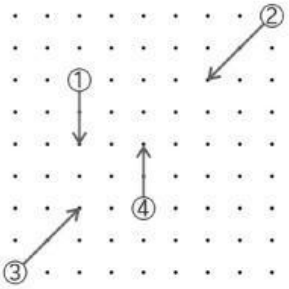
10. The six weights of a scale weigh
1 kg, 2 kg, 3 kg, 4 kg, 5 kg and 6 kg.
Rosi places five weights on the two scale pans so that they are balanced. The sixth weight is left aside.



Which weight is left aside?

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

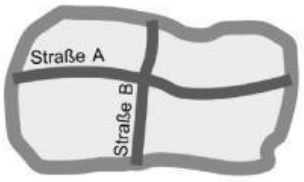
11. The diagram shows four cars 1, 2, 3 and 4. The arrows show where the cars move to in 5 seconds.

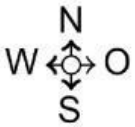


Which cars will crash into each other?

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

12. North of Straße A (street A) there are 7 houses.
East of Straße B (street B) there are 8 houses.
South of Straße A (street A) there are 5 houses.





How many houses are there West of Straße B (street B)?

(A) 4 (B) 5 (C) 6 (D) 7 (E) 8

LIVEWORKSHEETS

13. In a queue in front of a ferry there are 8 cars with 19 people in total. There are either 2 or 3 people in each car.

    How many cars are there with exactly 2 people?

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

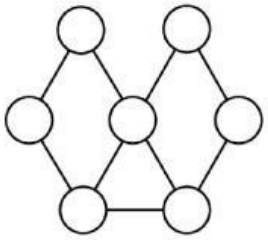
14. 6 beavers and 2 kangaroos are standing on the fields in this order: Of three animals in a row there is always exactly one kangaroo.

    On which of these numbers stands a kangaroo?

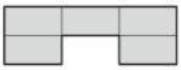
    (A) 1 (B) 2 (C) 3 (D) 4 (E) 5

15. Hanni wants to colour in the circles in the diagram. When two circles are connected by a line they should have different colours.

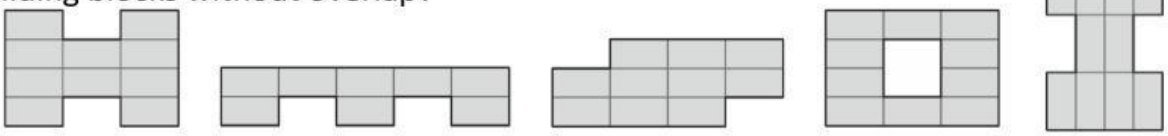
    

    What is the minimum number of colours she needs?

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

16. A building block is made up of five identical rectangles: 

    How many of the patterns shown below can be made with two such building blocks without overlap?

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

- 5 Point Examples -

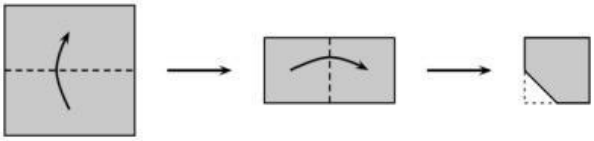
17. An underground line has the six stations A, B, C, D, E and F. The train stops at every station. After reaching the end of the line A or F the train continues in the opposite direction.
    The train conductor starts his journey in station B.
    His first stop is in station C.

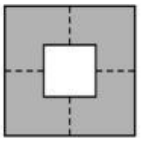
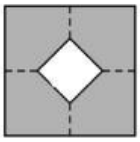
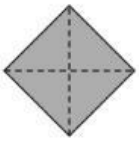
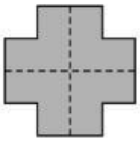
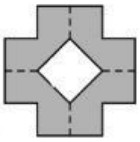
    In which station will be his 46th stop?

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

18. Rebecca folds a square piece of paper twice. Then she cuts off one corner as you can see in the diagram.
    Then she unfolds the paper.

    What could the paper look like now?

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

LIVEWORKSHEETS

19. Three boys enter a room one after the other.
Hermann is not the first. Felix is not the second. Clemens is not the third.

How many different orders are there for the boys to enter the room?

(A) 1 (B) 2 (C) 3 (D)4 (E) 6

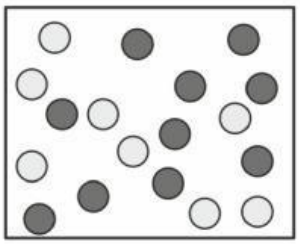
20. Five clocks are hanging on the wall. One clock is one hour ahead. Another one is one hour late and one is correct. Two clocks have stopped working.



Which clock shows the correct time?

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

21. Adam has 9 marbles and Brenda also has 9 marbles. Together they have 8 white and 10 black marbles. Brenda has twice as many black marbles as white marbles.



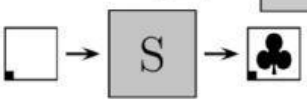
How many black marbles does Adam have?

(A) 3 (B) 4 (C) 5 (D) 6 (E) 0

22. Else has two machines R and S.
If she puts a square piece of paper into machine R it is rotated:



If she puts the piece of paper in machine S it is printed on:



She wants to produce the following picture:

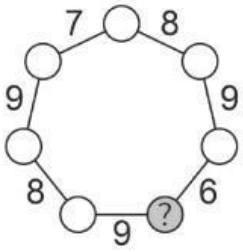


In which order does Else use the two machines so that she gets this picture?



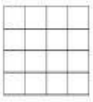
(A) SRR (B) RSR (C) RSS (D) RRS (E) SRS

23. A teacher wants to write the numbers from 1 to 7 into the circles. He writes exactly one number in each circle. When he adds up the two numbers of circles that are next to each other , he gets the number that is written between the two circles.



Which number does he write in the circle with the question mark?

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

24. Maria colours exactly 5 cells of this grid  in grey. Then she has her 5 friends guess which cells she has coloured in and their answers are the five patterns A, B, C, D and E. Maria looks at the patterns and says: „One of you is right. The others have each guessed exactly four cells correctly.“

Which pattern did Maria paint?

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

LIVEWORKSHEETS