KÄNGURU DER MATHEMATIK 2022
17. 3. 2022

Level: Écolier, Grades 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
Wenn du mehr in dieser Richtung machen möchtest,
gibt es die Österreichische Mathematikolympiade;
Infos unter: www.oemo.at

LIVEWORKSHEETS

Känguru der Mathematik Österreich – 17. 3. 2022 Level Écolier (Schulstufe 3 and 4)	Name:

- 3 Point Examples -

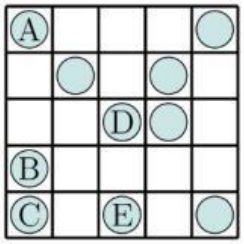
1. The bee wants to get to the flower.
Each arrow indicates a move to one neighbouring square.
Which path can the bee fly to get to the flower?



(A) ↓ → → ↓ ↓ ↓ (B) ↓ ↓ → ↓ ↓ → (C) → ↓ → ↓ → →
(D) → → ↓ ↓ ↓ ↓ (E) → ↓ → ↓ ↓ →

2. For every birthday Maria gets as many teddies as she is years old on that day.
For her first birthday she got 1 teddy.
For her second birthday she got 2 teddies and so on.
How many teddies in total has Maria got on the day after her sixth birthday?
(A) 19 (B) 20 (C) 21 (D) 22 (E) 23

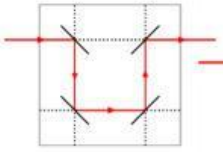
3. One of the five coins A, B, C, D or E shall be placed in an empty square so that there are exactly two coins in each row and in each column.
Which coin should be moved?

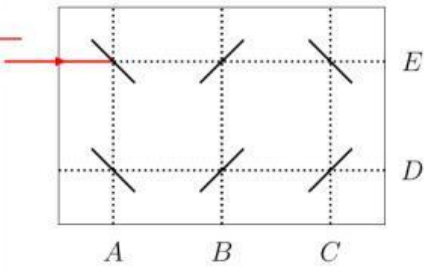


(A) A (B) B (C) C (D) D (E) E

4. Which two numbers can be placed instead of the ☐ in the calculation 2022 + ☐ = 2020 + ☐ so that it is correct?
(A) 3 and 5 (B) 4 and 1 (C) 3 and 4 (D) 7 and 2 (E) 9 and 8

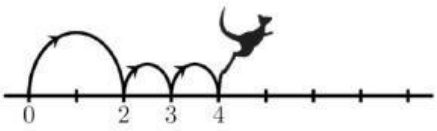
5. If a laser beam hits a mirror it changes its direction (see small diagram).
Each mirror has mirrored sides on both sides.
At which letter does the laser beam end?





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

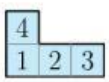
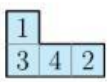
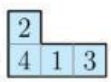
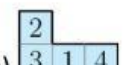
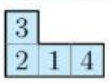
6. Kengu jumps on the number line to the right (see diagram).
He first makes one big jump and then two little jumps in a row and keeps repeating the same thing over and over again.
He starts at 0 and ends at 16.
How many jumps does Kengu make in total?



(A) 4 (B) 7 (C) 8 (D) 9 (E) 12

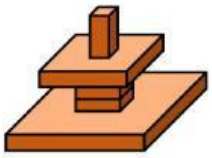
7. In the diagram on the right two neighbouring squares are never allowed to have the same number.
Which puzzle piece has to be placed in the gap so that this rule is followed?

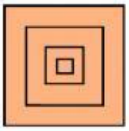
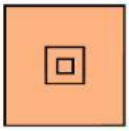
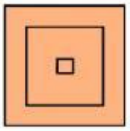
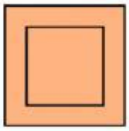
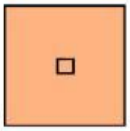
3	2	5	4	2	1
1	4	3	1	3	4
2	5		5	2	1
4	1				3
3	2	4	2	5	2
4	1	3	1	3	4

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

LIVEWORKSHEETS

8. John uses some building blocks to form a work of art.
What does John see when he looks at his work of art from above?



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

- 4 Point Examples -

9. Five cars are labelled with the numbers 1 to 5. They drive in the direction of the arrow.



First the last car overtakes the two cars in front of it.
Then the now second to last car overtakes the two in front of it.
In the end the car that is now in the middle overtakes the two in front of it.
In which order do the cars now drive?

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

10. The members of a family of kangaroos are
2, 4, 5, 6, 8 and 10 years old.
Four of them are 22 years old when added together.
How old are the other two kangaroos?



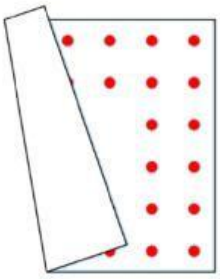
(A) 2 and 8 (B) 4 and 5 (C) 5 and 8 (D) 6 and 8 (E) 6 and 10

11. Mosif has filled a table with numbers (see diagram).
When he adds the numbers in each row and in each column together, the result should always be the same. He has however, made a mistake.
In order to get the same result every time he has to change one single number.
Which number does Mosif have to change?

9	1	5
3	7	6
4	7	4

(A) 1 (B) 3 (C) one of the two 4s (D) 5 (E) one of the two 7s

12. Aladdin's carpet has the shape of a square.
Along each edge there are two rows of dots (see diagram).
The number of points is the same along each edge.
How many dots in total does the carpet have?



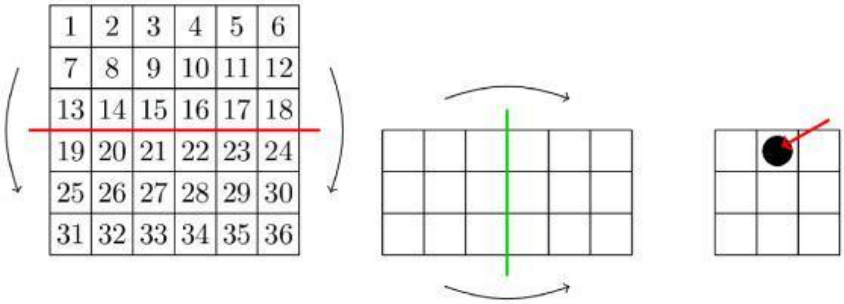
(A) 32 (B) 36 (C) 40 (D) 44 (E) 48

13. In a classroom the children sit in rows.
In each row there are the same amount of children.
In Robert's row there are 2 children to the left of him and 3 children to the right of him.
In front of Robert there are 2 rows, behind him just one.
How many children in total are in this class?

(A) 8 (B) 15 (C) 18 (D) 20 (E) 24

LIVEWORKSHEETS

14. Johanna folds a piece of paper with the numbers 1 to 36 in half twice (see diagrams).



Then she stabs a hole through all four layers at the same time (see diagram on the right).
Which four numbers does she pierce in doing so?

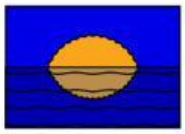
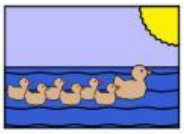
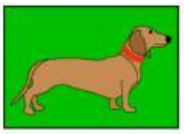
(A) 8, 11, 26, 29 (B) 14, 16, 21, 23 (C) 14, 17, 20, 23
(D) 15, 16, 21, 22 (E) 15, 17, 20, 22

15. Three football teams are taking part in a tournament.
Each team plays each other team once.
For a win the team scores 3 points, the other team 0 points.
For a draw both teams get 1 point each.
Which number of points is impossible, for any team to reach at the end of this tournament?

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

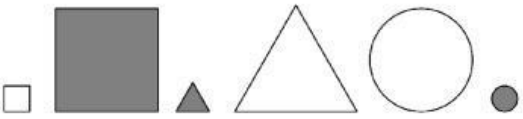
16. Jan sends five postcards to his friends during his holiday.
The card for Michael does **not** have ducks.
The card for Clara shows the sun.
The card for Paula shows exactly two animals.
The card for Lexi shows a dog.
The card for Heidi shows kangaroos.

Which card does Jan send to Michael?

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

- 5 Point Examples -

17. Wanda chooses some of the following shapes.
She says: „I have chosen exactly 2 grey, 2 big and 2 round shapes."



What is the minimum number of shapes Wanda has chosen?

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

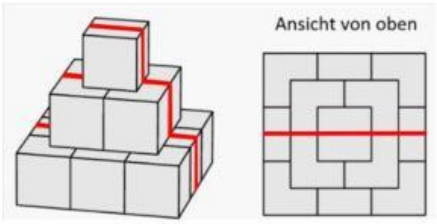
18. The little caterpillar  rolls up to go to sleep.

What could it look like then?

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

LIVEWORKSHEETS

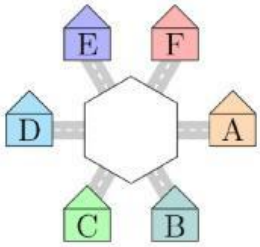
19. A pyramid is built from cubes (see diagram).
All cubes have side length 10 cm.
An ant crawls along the line drawn across the pyramid (see diagram).
How long is the path taken by the ant?

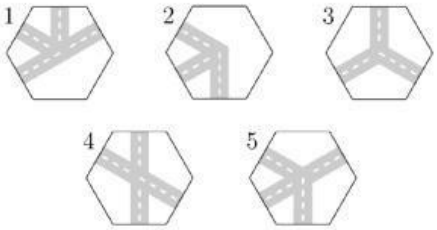


(A) 30 cm (B) 60 cm (C) 70 cm (D) 80 cm (E) 90 cm

20. A road leads away from each of the six houses (see diagram).
A hexagon showing the roads in the middle is however, missing.

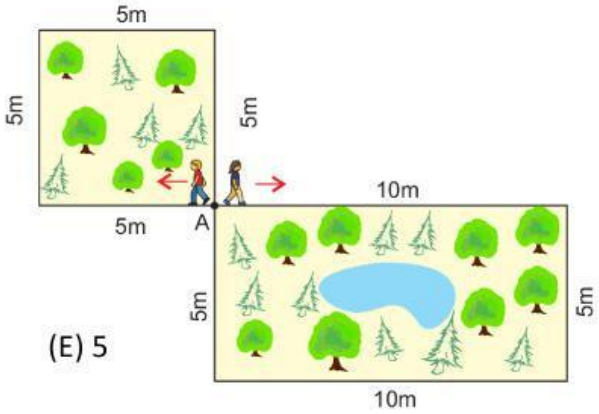
Which hexagons fit in the middle so that one can travel from A to B and to E, but **not** to D?





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

21. Ahmed and Sara move from point A in the direction shown with the same speed.
Ahmed walks around the square garden and Sara walks around the rectangular garden.
How many rounds does Ahmed have to walk to meet Sara in point A again for the first time?

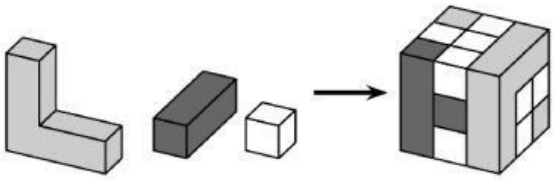


(A) 1 B) 2 (C) 3 (D) 4 (E) 5

22. Five girls eat plums.
Laura eats 2 plums more than Sophie.
Bettina eats 3 plums less than Laura.
Clara eats one plum more than Bettina and 3 less than Alice.
Which two of the girls eat the same amount of plums?

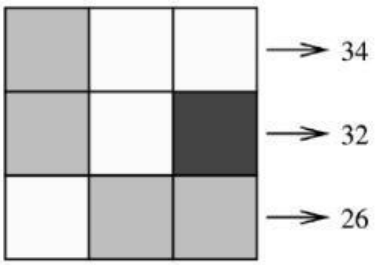
(A) Alice and Bettina (B) Alice and Laura (C) Alice and Sophie
(D) Clara and Laura (E) Clara and Sophie

23. The big cube is made up of three different kinds of building blocks (see diagram).
How many of the little white cubes are needed for this big cube?



(A) 8 (B) 11 (C) 13 (D) 16 (E) 19

24. Under cards with the same colour, the same number is always found. If the three hidden numbers in one row are added, one obtains the number to the right of the row.
Which number is hidden under the black card?



(A) 6 (B) 8 (C) 10 (D) 12 (E) 14

LIVEWORKSHEETS