

KÄNGURU DER MATHEMATIK 2019

21. 3. 2019

Level: Écolier, Grade: 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 question left unanswered: 0 points
each incorrect answer: minus $\frac{1}{4}$ 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

S-VERSICHERUNG
VIENNA INSURANCE GROUP

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



Känguru der Mathematik 2019 Level Écolier (Schulstufe 3 and 4) Austria – 21. 3. 2019

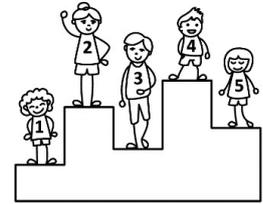


- 3 Point Examples -

1. The higher someone stands on the podium, the better the ranking.

Which number got third place?

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



2. The diagram  shows the number 8. A dot stands for the number 1 and a line for the number 5.

Which diagram represents the number 12?

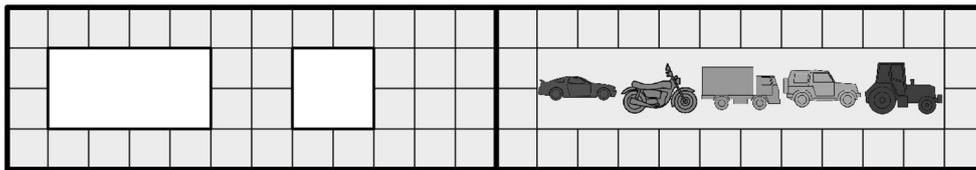
- (A)  (B)  (C)  (D)  (E) 

3. Yesterday it was Sunday.

Which day will it be tomorrow?

- (A) Saturday (B) Thursday (C) Wednesday (D) Tuesday (E) Monday

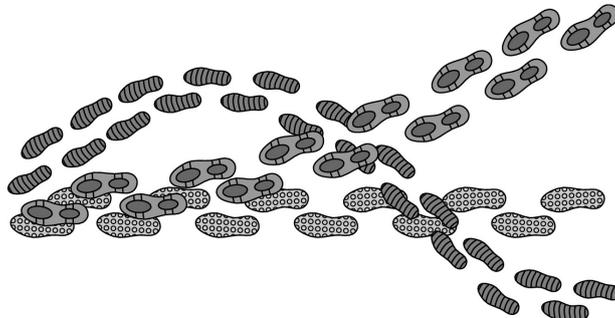
4. There are two holes in the cover of a book. The book lies on the table opened up (see diagram).



After closing up the book which vehicles can Olaf see?

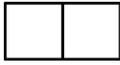
- (A)  (B)  (C) 
 (D)  (E) 

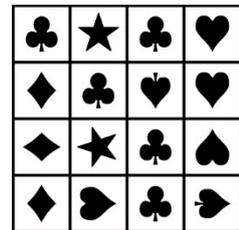
5. Three people walked through the snow in their winter boots.

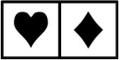


In which order did they walk through the snow?

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

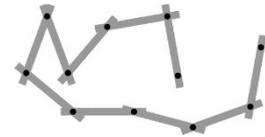
6. Karina cuts out a piece of this form  from the diagram on the right. Which one of the following pieces can she cut out?

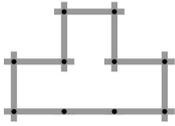
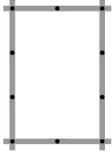
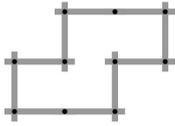
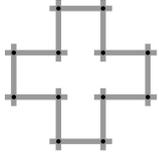
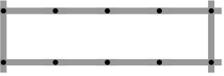


- (A)  (B)  (C)  (D)  (E) 

7. Using the connected sticks shown, Pia forms different shapes.

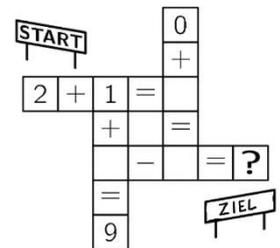
Which shape can she not make?



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

8. Which number goes into the field with the question mark, if all calculations are solved correctly?

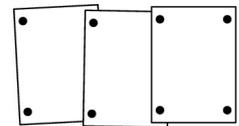
- (A) 4 (B) 5 (C) 6 (D) 7 (E) 8



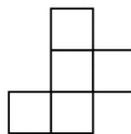
- 4 Point Examples -

9. Linda fixes 3 photos on a pin board next to each other. She uses 8 pins to do so. Peter wants to fix 7 photos in the same way. How many pins does he need for that?

- (A) 14 (B) 16 (C) 18 (D) 22 (E) 26

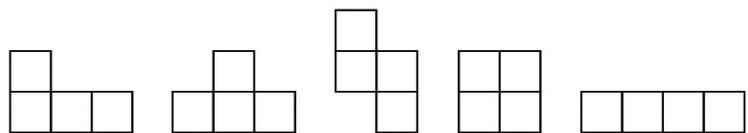


10. Dennis takes off one of the squares of this shape



How many of these 5 shapes can he get?

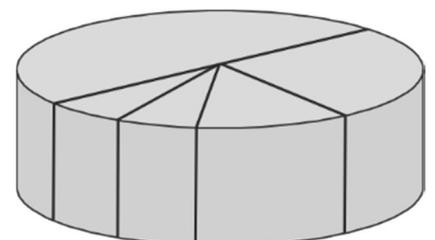
- (A) 1 (B) 2 (C) 3 (D) 4 (E) 5



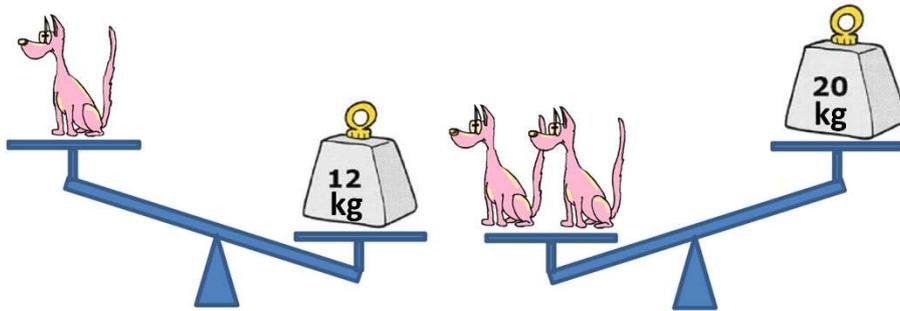
11. Mother halves the birthday cake. One half she then halves again. Of that she again halves one of the smaller pieces. Of these smaller pieces she once more halves one of them (see diagram). One of the two smallest pieces weighs 100 g.

How much does the entire cake weigh?

- (A) 600 g (B) 800 g (C) 1200 g (D) 1600 g (E) 2000 g



12. All dogs are equally heavy.



How much could one dog weigh?

- (A) 7 kg (B) 8 kg (C) 9 kg (D) 10 kg (E) 11 kg

13. Sara has 16 blue marbles. She can swap her marbles in the following way:

For 3 blue marbles she gets 1 red marble.

For 2 red marbles she gets 5 green marbles.

What is the maximum number of green marbles she can get?

- (A) 5 (B) 10 (C) 13 (D) 15 (E) 20

14. Steven wants to write each of the digits 2, 0, 1 and 9 into the boxes of this addition:

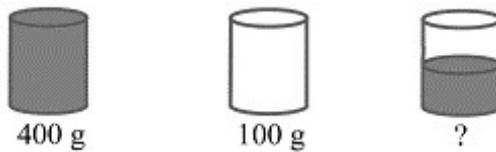
$$\square \square \square + \square$$

He wants to obtain the biggest result possible.

Which digit does he have to use for the single-digit number?

- (A) either 0 or 1 (B) either 0 or 2 (C) only 0 (D) only 1 (E) only 2

15. A full glass of water weighs 400 grams. An empty glass weighs 100 grams.



How much does a half-full glass of water weigh?

- (A) 150 g (B) 200 g (C) 225 g (D) 250 g (E) 300 g

16. The pictures show how much 2 pieces of fruit cost altogether.



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

- 5 Point Examples -

17. Each shape represents exactly one digit.

			15
			12
			16

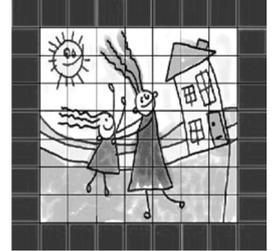
The sum of the digits in each row is stated on the right hand-side of each row.

Which digit does the star stand for? 

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

18. Anna uses 32 small grey squares to frame a 7 cm by 7 cm big picture.
How many small grey squares does she have to use to frame a 10 cm by 10 cm big picture?

- (A) 36 (B) 40 (C) 44 (D) 48 (E) 52

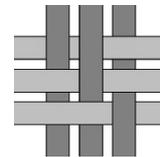


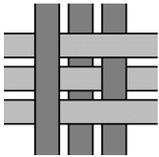
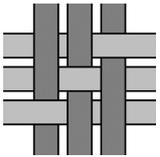
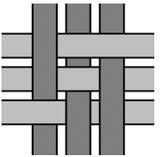
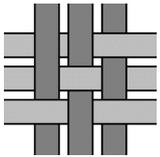
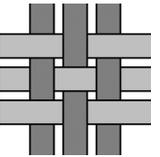
19. The pages of a book are numbered with 1, 2, 3, 4, 5 and so on.
The digit 5 appears exactly 16 times.

What is the maximum number of pages the book can have?

- (A) 56 (B) 64 (C) 72 (D) 80 (E) 88

20. Six paper strips are used to weave a pattern (see diagram).
What do you see when you look at the pattern from behind?



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

21. There live exactly 15 animals on a farm: cows, cats and kangaroos. We know that exactly 10 animals are not cows and exactly 8 animals are not cats.
How many kangaroos live on the farm?

- (A) 2 (B) 3 (C) 4 (D) 10 (E) 18

22. Marta sticks several triangles on top of each other and makes a star that way.
What is the minimum number of triangles she has used?

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



23. One of the 5 children Alex, Bartek, Cora, Dani and Emil has eaten a cake.

- Alex says: „I did not eat a cake.“
- Bartek says: „I ate a cake.“
- Cora says: „Emil has not eaten a cake.“
- Dani says: „I did not eat a cake.“
- Emil says: „Alex has eaten a cake.“

One of the children lies.
Which child has eaten a cake?

- (A) Alex (B) Bartek (C) Cora (D) Dani (E) Emil

24. From above, the corridor of a school looks like in the diagram.
A cat walks along the dotted line drawn in the middle of the room.
How many meters does the cat walk?

- (A) 75 m (B) 77 m (C) 79 m (D) 81 m (E) 83 m

