## WereldWijde WiskundeWedstrijd W4Kangoeroe Thursday March $19^{\text {th }} 2020$



## WWW.W4KANGOEROE.NL

## Good luck and most of all have fun.

© Stichting Wiskunde Kangoeroe

calculators are not allowed
eraser and scribbling paper are allowed

answers will be posted on the website about March 29 ${ }^{\text {th }}$


30 minutes for 12 questions (group 3) 60 minutes for 24 questions (group 4) results and prizes will arrive at school at the end of May
solutions will be posted on the website about April $20^{\text {th }}$

Breng leren tot leven

www.e-nemo.nl

## his Texas <br> Instruments

www.education.ti.com
www.smart.be

Schoolsupport
www.schoolsupport.nl
grekenwinkel ${ }_{\text {gig }}^{\text {g }}$
verstand van school(materialen)
www.derekenwinkel.nl/

EID Premiums
-॥" Relatiegeschenken \& Promotieartikele www.idpremiums.nl
明名 wiskunde nederland www.platformwiskunde.nl
www.museumboerhaave.nl

1. Nassima has 2 cards. Card $A$ has holes.

Nassima places card A exactly on top of card B.
What can Nassima see?

A.

B.

C.

D.

E.

2. Hidda draws a picture.

Her picture has 3 black triangles.
Her picture has also fewer than 4 squares.
Which picture did Hidda draw?
A.

B.

C.

D.

E.

3. The kangaroo goes up 3 steps each time the rabbit goes down 2 steps.

A. 3
B. 4
C. 5
D. 6
E. 7
4. Rob is in front of this castle.

His father takes a picture of him.


Which could be Rob's photo?
A.


C.

5. Sanne is making a puzzle of a kangaroo.

How should she arrange the 4 pieces?


A. | 4 | 3 |
| :--- | :--- |
| 2 | 1 |

B. | 3 | 4 |
| :--- | :--- |
| 2 | 1 |

C. | 2 | 1 |
| :--- | :--- |
| 4 | 3 |

D. | 4 | 3 |
| :---: | :---: |
| 1 | 2 |

E. | 3 | 4 |
| :---: | :---: |
| 1 | 2 |

6. A magician is pulling animals out of his top hat.

He pulls the animals always in the same order out of his hat.
After 5 animals, he starts over again.
The magician started like this:

## Sctars \&

Which 2 animals come out of the hat next?
A.

B.

c. 8
D. $\int^{2}$
E. 2
7. Iris has 14 grey little cubes and some white ones.

She has made this large block out of all these little cubes.

How many of these grey cubes cannot be seen in the picture?

A. 1
B. 3
C. 5
D. 6
E. 8
8. The braid is composed of 3 threads.

One thread is black. Another is white.
There is also a striped thread.
In the picture, only the start of each thread is coloured.


What can you say about the threads?
A. 1 is black, 2 is white and 3 is striped
B. 1 is white, 2 is striped and 3 is black
C. 1 is striped, 2 is black and 3 is white
D. 1 is white, 2 is black and 3 is striped
E. 1 is black, 2 is striped and 3 is white
9. Which piece completes the picture?

A.

B.

C.

D.

E.

10. This spider web consists of 4 straight threads, and 4 circular threads. There are 3 flies on each straight thread and on each circular thread. There are 12 flies in the web.
In the picture, there are 11 flies drawn.

Where is the $12^{\text {th }}$ fly?

A. A
B. B
C. C
D. D
E. E
11. Which shape uses the most cubes?
A.

B.

C.


D.

12. Write the numbers $1,2,3,4,5$ and 6 in the cells.

The numbers in the dark grey cells have to add up to 10. The numbers in the light grey cells have to add up to 10 as well.


Which number should be placed on the question mark?
A. 1
B. 2
C. 3
D. 4
E. 5
13. The numbers on one flower add up to the same answer as the numbers on the other flower.

What number is written on the hidden petal?

A. 0
B. 1
C. 3
D. 5
E. 7
14. Which of the following pictures has the most grey?
A.

B.

C.

D.

E.

15. This card lies on the table:


The card is flipped over its top edge. After that the card is flipped over its left edge.


What does the card look like after these 2 flips?
A.

B. $\nabla \nabla \Delta$
C. $A \Delta V$
D. $\nabla \Delta \nabla$
E. $\nabla \mathbf{A}$
16. Grandmother has just baked 12 cookies.

She wants to give all of the cookies to her 5 grandchildren.
She wants to give each of the grandchildren the same number of cookies.
How many more cookies should she bake?
A. 0
B. 1
C. 2
D. 3
E. 4
17. Tom has these cards:


He puts a card in each cell of the board.
3 cards next to each other have different shapes and different numbers.
3 cards below each other also have different shapes and different numbers
Which card should Tom put on the question mark?
A.

B.

C.

D.

E.

18. Each arrow points from a small child to a taller child. For example, Frits is smaller than Egbert.

A. Albert
B. Bram
C. Chris
D. Dylan
E. Egbert
19. These 2 trains have 31 cars each. The trains are traveling in opposite directions.


When they stop both cars with No. 19 are opposite each other.
Which car is opposite car No. 12 at that moment?
A. 7
B. 12
C. 21
D. 26
E. 31
20. Maja the Bee can walk only on grey cells.

She wants to walk from $A$ to $B$.
Then she has to colour 2 white cells grey.

In how many ways can she do this?

A. 3
B. 4
C. 5
D. 6
E. 7
21. Write the numbers $1,2,3,4$ and 5 in the cells.

Add the numbers in the 3 grey cells.
Also add the numbers in the 3 squares.
The answers have to be the same.

Which number should be placed in the grey square with the question mark?

A. only 1
B. only 3
C. only 5
D. 2,3 or 4
E. 1,3 or 5
22. On this die there are six numbers, chosen from $1,2,3,4,5,6,7,8$ and 9 .

Each side has a different number.
If you add the numbers on opposite sides, you get the same answer each time.

Which number is on the opposite side of the 5 ?

A. 3
B. 5
C. 6
D. 7
E. 9
23. Lars and Sofie exchange sweets.

Lars gives Sofie as many sweets as she already has.
Then Sofie gives Lars as many sweets as he still has left.
Now, Lars and Sofie both have 4 sweets.
How many sweets did Lars have at the beginning?
A. 2
B. 3
C. 4
D. 5
E. 6
24. There are some apples and 8 pears in a basket. Each piece of fruit is green or yellow. There are 3 more apples than green fruits. There are 6 yellow pears.

How many yellow apples are there in the basket?
A. 4
B. 5
C. 6
D. 7
E. 8

