wizSMART 2014

wereldwijde wiskunde wedstrijd

W4Kangoeroe

www.w4kangoeroe.nl

March 20th 2014

Good luck and most of all have fun.

calculators are not allowed

you may use 50 minutes

Only a pencel, an eraser and scribbling paper are allowed

results and prizes will arrive at school in May

answers will be posted on the website March 27th

solutions will be posted on the website April 20th

wizSMART
7 & 8 primary school and 1 & 2 vmbo,
vmbo 3 & 4 basisberoepsgerichte leerweg

1. *Jesse* has put the Dutch word KANGOEROE in front of him.

Some letters have not been put down correctly. In the example below you see that *Jesse* will have to rotate the letter K twice a quarter turn and the letter A only once.

How many times does *Jesse* have to rotate the letters of the word KANGOEROE a quarter turn so that they are all placed correctly?

A. 4 **B.** 5 **C.** 6 **D.** 7 **E.** 8

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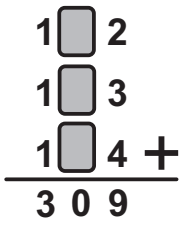
2. *Ilse* used little cards to cover three digits in the following sum.



What result will she get when she adds those three digits?

A. 0 **B.** 1 **C.** 2 **D.** 3 **E.** 10

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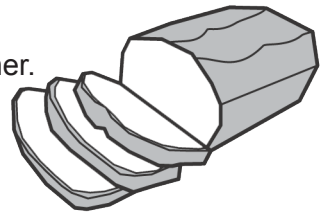
3. A cake weighs 900 gram. *Hamid* cuts the cake into four pieces.
The largest piece weighs as much as do the other three pieces together.



How much does the largest piece weigh?

A. 250 g **B.** 300 g **C.** 400 g **D.** 450 g **E.** 600 g

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4. How big is the difference between the smallest five-digit number and the largest four-digit number?

A. 1 **B.** 10 **C.** 1111 **D.** 9000 **E.** 9999

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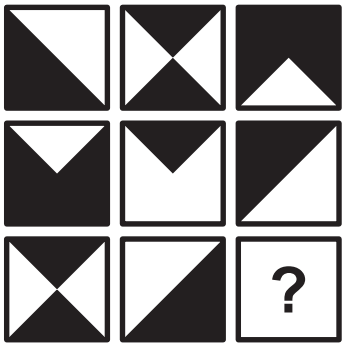
5. *Sjaak* tiles a wall with nine tiles.
The area of the white region of the tiles has to be just as large as the area of the black region.



Which tile takes the position of the question mark?

A.  **B.**  **C.**  **D.**  **E.** 

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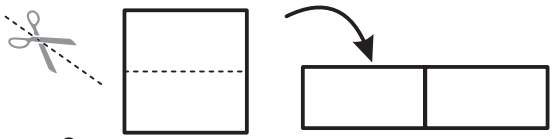
6. A square of perimeter 48 cm is cut into two pieces, which are put next to each other.



What is the perimeter of the rectangle we obtain this way?

A. 24 cm **B.** 30 cm **C.** 48 cm **D.** 60 cm **E.** 72 cm

7. *Kamila* the witch took part in a broom-flying contest.
The contest started at 9:55 am and consisted of five rounds of flying.
Below her times are shown.

	time
start	09:55
after round 1	10:26
after round 2	10:54
after round 3	11:28
after round 4	12:03
after round 5	12:32

Which was the fastest round of *Kamila*?

A. the first **B.** the second **C.** the third **D.** the fourth **E.** the fifth

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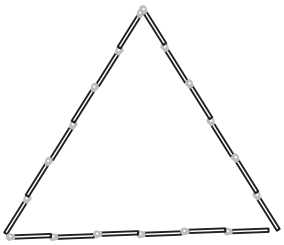
8. *Femke* has 38 matches.
She uses all of them to lay out a triangle and a square.
Every edge of the triangle consists of 6 matches.



How many matches does each of the edges of the square consist of?

A. 4 **B.** 5 **C.** 6 **D.** 7 **E.** 8

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9. A pearl necklace consists of grey and white pearls.

Lisanne needs five grey pearls. She is allowed to take those from both ends.
Of course she will also take some white pearls.
What is the smallest number of white pearls *Lisanne* has to take?

A. 2 **B.** 3 **C.** 4 **D.** 5 **E.** 6

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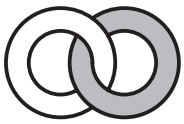
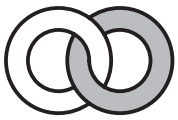
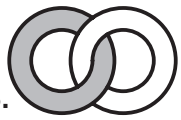
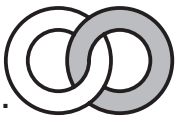
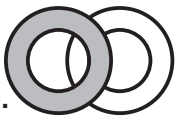
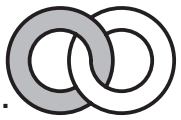
10. A grey and a white ring are connected.



Fleur is standing in front of the rings and sees the rings as in the picture.
Sanne is standing behind the rings.
How does she see the rings?

A.  **B.**  **C.**  **D.**  **E.** 

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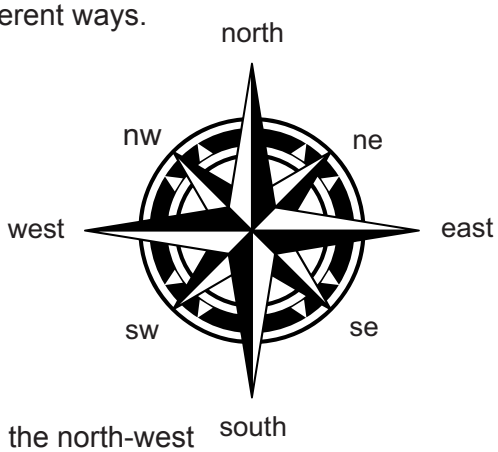
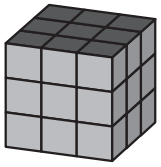
11. *Tom* and *Shamba* are standing side by side at the beginning of a shopping street in New York. They both walk the streets of New York in different ways.
Tom walks:
1 km to the north,
2 km to the west,
4 km to the south and
1 km to the west.
Shamba walks:
1 km to the east,
4 km to the south and
4 km to the west.
How does *Shamba* have to walk to get to *Tom*?



A. 1 km to the north
B. more than 1 km to the north-west
C. 1 km to the north-west
D. 1 km to the west
E. he is with *Tom* already

12. *Maud* made the cube alongside out of 27 small blocks.



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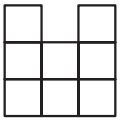
Maud would like to see the following view from the front, from the top, and from the side.



What is the smallest number of blocks *Maud* has to take away?

A. 4 **B.** 5 **C.** 6 **D.** 7 **E.** 9

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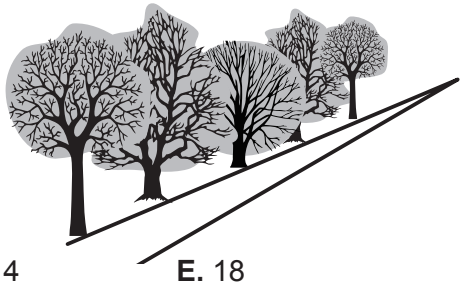
13. On one side of the main street grow 30 trees. Every second tree is an oak and every third tree is an oak or a lime tree. The other trees are beeches.



How many beeches are there in the main street?

A. 6 **B.** 8 **C.** 10 **D.** 14 **E.** 18

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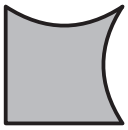
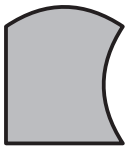
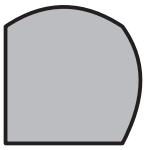
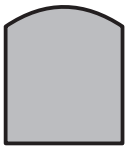
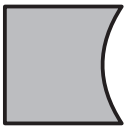
14. A square will be made out of exactly four of the five pieces shown below. Which piece will not be used?

A.  **B.**  **C.**  **D.**  **E.** 

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15. A restaurant has 16 tables. At every table there are 3, 4 or 6 chairs. In all, 36 people can be seated at tables with 3 or 4 chairs. In the restaurant 72 people can be seated at the same time. How many tables with 3 chairs does the restaurant have?

A. 4 **B.** 5 **C.** 6 **D.** 7 **E.** 8

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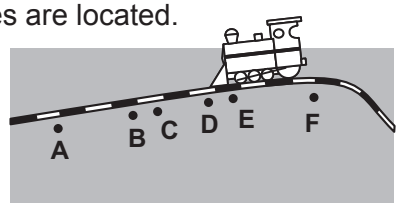
16. Along some railway six villages are located.



The table below shows some distances between these places.

			distance
Akkel	-	Funni	35 km
Akkel	-	Costi	12 km
Boden	-	Dover	11 km
Costi	-	Eggem	12 km
Dover	-	Funni	16 km

What is the distance between Boden and Eggem?

A. 14 km **B.** 15 km **C.** 16 km **D.** 17 km **E.** 18 km

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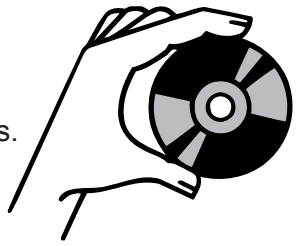
17. A number of children participate in a summercamp. Seven children eat an icecream every day. Nine children eat an icecream every other day. Yesterday, thirteen children ate an icecream. How many children will eat an icecream today?

A. 7 **B.** 8 **C.** 9 **D.** 10 **E.** 11

18. *Malika* has a CD with five songs on it: song A lasts 3 minutes, song B lasts 2 minutes and 30 seconds, song C lasts 2 minutes, song D lasts 1 minutes and 30 seconds and song E lasts 4 minutes. These five songs are repeated in the order A, B, C, D, E, without breaks. When *Anne* left her room, song C was playing. Which song was playing when *Anne* returned exactly 1 hour later?



A. A **B.** B **C.** C **D.** D **E.** E

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19. *Chalid* puts the digits 1 to 9 in the table shown. He has already made a start. *Chalid* would like to have the digits bordering the box with digit 5 to sum up to 9. *Chalid* then adds the digits bordering the box with number 6. What is the result?

1		3
2		4

A. 14 **B.** 15 **C.** 17 **D.** 24 **E.** 29

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20. Three digits are written on a blackboard. *Fleur* adds them and gets the number 15 as a result. She then erases one digit and writes down the digit 3 instead. Now she multiplies the three digits and gets the number 36 as a result. Which digit can *Fleur* have erased?

A. 6 as well as 7 **B.** 7 as well as 8 **C.** only 6
D. only 7 **E.** only 8

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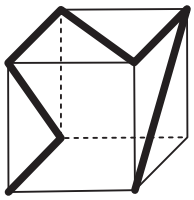
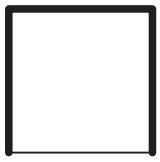
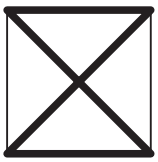
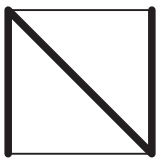
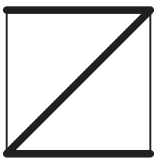
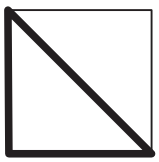
21. A thin rope is glued to a transparant cube, as shown in the picture.



Which of the figures shown below is not a view of the cube?

A.  **B.**  **C.**  **D.**  **E.** 

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22. The king and his messengers walk from the castle to the summer palace with a speed of 5 km/h. Every hour the king sends a messenger back to the castle. The messenger runs with a speed of 10 km/h. What will the time interval be each time between two messengers arriving at the castle?

A. 30 min **B.** 60 min **C.** 75 min **D.** 90 min **E.** 120 min

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23. Grandmother *Emma* has six grandchildren. The ages of these grandchildren are all different. When you add the ages of all grandchildren, the result will be 120. *Evelien* is the eldest. What is the minimal possible age of *Evelien*?

A. 19 **B.** 20 **C.** 21 **D.** 22 **E.** 23

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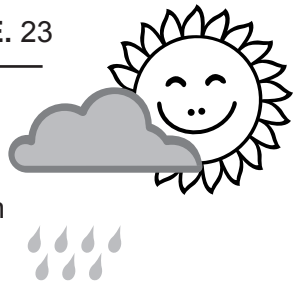
24. In Fabuland every sunny day is always preceded by at least two days of rain. And the fifth day after a rainy day is also always a rainy day. Today the sun is shining. What is the biggest number of consecutive days after today that we can predict the weather with certainty?



A. 1 day **B.** 2 days **C.** 3 days **D.** 4 days **E.** 5 days