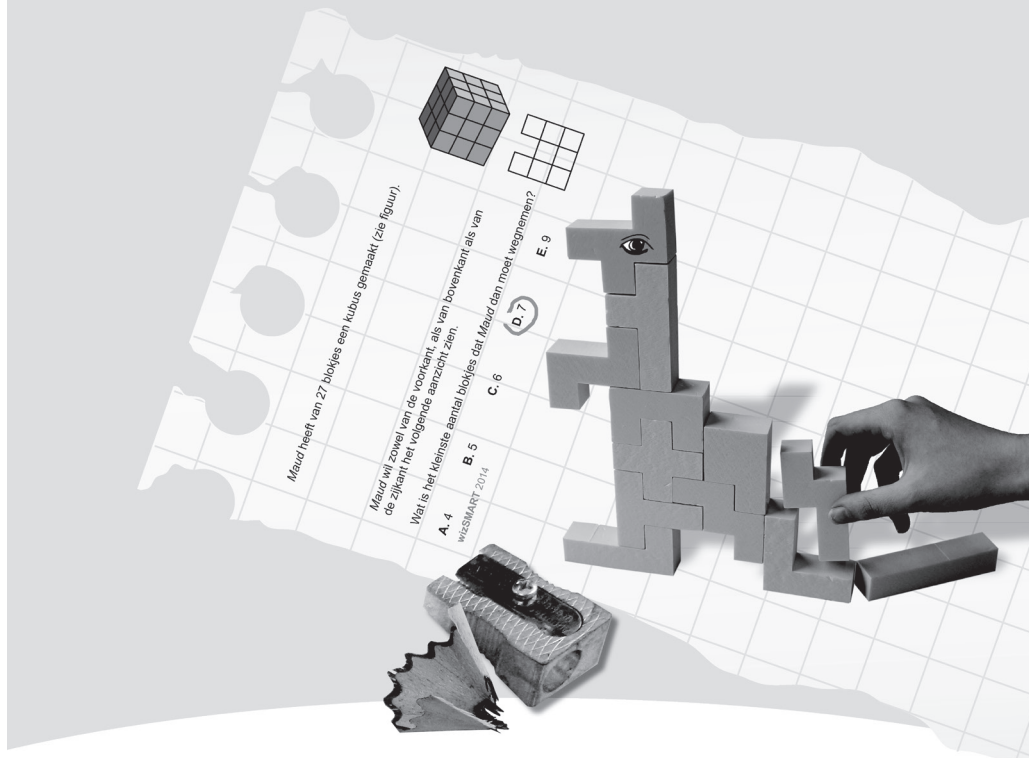




## WERELDWIJDE WISKUNDEWEDSTRIJD W4KANGOEROE

### THURSDAY MARCH 17TH 2016

[WWW.W4KANGOEROE.NL](http://WWW.W4KANGOEROE.NL)



## Good luck and most of all have fun.

© Stichting Wiskunde Kangoeroe



calculators are not allowed



you may use 50 minutes



only a pencil, an eraser and scribbling paper are allowed



results and prizes will arrive at school medio May



answers will be posted on the website March 26th



solutions will be posted on the website April 22th

wizSMART  
7 & 8 primary school

zwijzen  
[www.zwijzen.nl](http://www.zwijzen.nl)

NEMO Science Center  
[www.e-nemo.nl](http://www.e-nemo.nl)

TEXAS INSTRUMENTS  
[www.education.ti.com](http://www.education.ti.com)

keep on playing  
SMART GAMES  
[www.smart.be](http://www.smart.be)

Sanders  
[www.sanderspuzzelboeken.nl](http://www.sanderspuzzelboeken.nl)

Schoolsupport  
[www.schoolsupport.nl](http://www.schoolsupport.nl)

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[www.blinkuitgevers.nl](http://www.blinkuitgevers.nl)

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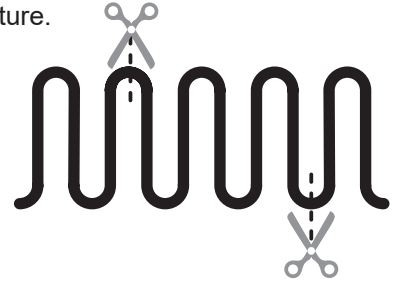
MUSEUM BOERHAAVE  
SINCE 1951  
[www.museumboerhaave.nl](http://www.museumboerhaave.nl)

1. Mike cuts a pizza into quarters. Then he cuts every quarter into thirds.

What part of the whole pizza is 1 piece?

- A.  $\frac{1}{3}$       B.  $\frac{1}{4}$       C.  $\frac{1}{7}$       D.  $\frac{1}{8}$       E.  $\frac{1}{12}$

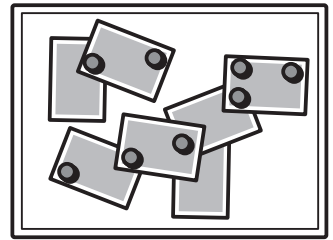
2. A rope of length 10 m is lying on the ground as shown in the picture. The rope is cut at the 2 marked places.



What are the lengths of the 3 parts?

- A. 1 m, 5 m, 4 m    B. 3 m, 4 m, 3 m    C. 3 m, 6 m, 1 m    D. 3 m, 5 m, 2 m    E. 4 m, 4 m, 2 m

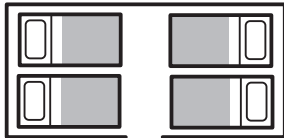
3. On Lisa's magnetic board a number of photo's are held together by 8 strong magnets ●.



What is the largest number of magnets that Lisa could remove so that no postcard falls to the ground?

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

4. Bea and Pia are both lying in bed on the left side of the bedroom. They are facing each other.

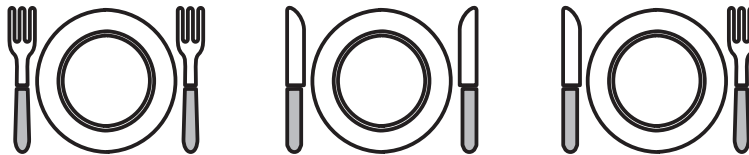


On the right side of the bedroom, Marie and Karin are lying in bed. They are lying with their backs to each other.

How many girls are lying in bed with their right ear on their pillow?

- A. 0      B. 1      C. 2      D. 3      E. 4

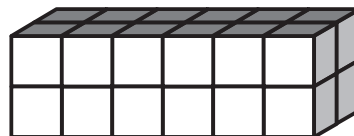
5. Sarah's mother wants to see a knife on the right side of each plate and a fork on the left side of each plate.



How many interchanges of a knife and a fork does Sarah need to make in order to please her mother?

- A. 1      B. 2      C. 3      D. 5      E. 6

6. Tom and Jim are building rectangular boxes. The cubes they are using are identical. They use the same number of cubes. Tom's box is finished and looks like this:



The first level of Jim's box looks like this:



How many levels will Jim's box have?

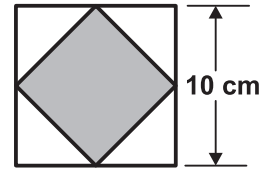
- A. 2      B. 3      C. 4      D. 5      E. 6

7. A centipede, an animal with 100 feet, has 25 pairs of shoes. It needs 1 shoe for each of its 100 feet.

How many more shoes does the centipede need?

- A. 20                      B. 25                      C. 35                      D. 50                      E. 75

8. Silke draws a square that has sides of length 10 cm. She joins the midpoints of the sides to make a smaller square.



What is the area of the smaller square?

- A. 10 cm<sup>2</sup>                      B. 20 cm<sup>2</sup>                      C. 25 cm<sup>2</sup>                      D. 40 cm<sup>2</sup>                      E. 50 cm<sup>2</sup>

9. Freek, Anne, and Marlies work in a library at a school. Each day from Monday to Friday exactly 2 of them have to be at work. Freek works 3 days this week and Anne 4 days.

How many days does Marlies have to work this week?

- A. 1                      B. 2                      C. 3                      D. 4                      E. 5

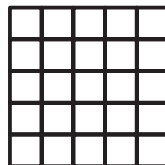
10. Merel has 2 identical squares.



Which of the following figures could **not** be formed by Merel?



11. What is the greatest number of shapes of the form  that can be cut out of a 5 by 5 square? (see picture).



- A. 3                      B. 4                      C. 5                      D. 6                      E. 7

12. 5 squirrels A, B, C, D, and E are sitting on a line. At each cross there is 1 nut. At a certain moment all squirrels start running to the nearest nut. As soon as a squirrel picks up a nut it starts running to the next closest nut. They are all running at the same speed.



Which squirrel will get 2 nuts?

- A. A                      B. B                      C. C                      D. D                      E. E

13. There are 30 students in a class. They sit in pairs next to each other. Each boy is sitting next to a girl and half of the girls are sitting next to a boy.

How many boys are in the class?

- A. 5                      B. 10                      C. 15                      D. 20                      E. 25

14. Rayan writes down all the numbers with the following 3 properties:  
 - the first digit is 1,  
 - each of the following digits is at least as big as the one before it and  
 - the sum of the digits is 5.

How many numbers has Rayan written down?

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



21. *Luigi* started a small restaurant.  
 His friend *Carlo* gave him some square tables and chairs.  
 If he uses all the tables as in figure 1, he would need 6 more chairs.  
 If he uses all the tables as in figure 2, he would have 4 chairs left over.

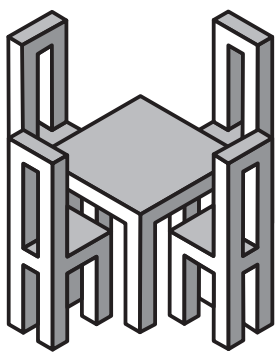


figure 1

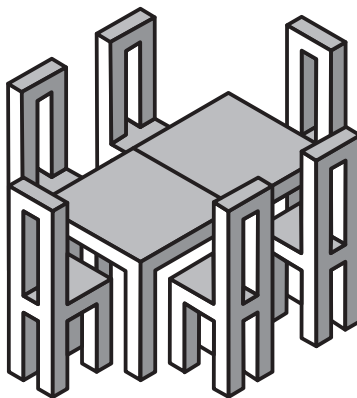


figure 2

How many tables did *Luigi* get from *Carlo*?

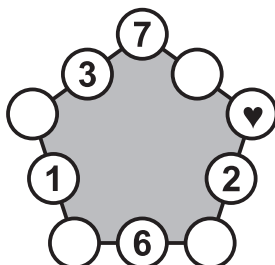
- A. 10                      B. 12                      C. 14                      D. 16                      E. 18

22. The symbols ● ■ ▲ represent 3 different digits.  
 If you add the digits of the 3-digit number ●■●, the result is the 2-digit number ■▲.  
 If you add the digits of the 2-digit number ■▲, you find the 1-digit number ■.

Which digit does ● represent?

- A. 4                      B. 5                      C. 6                      D. 8                      E. 9

23. *Kirsten* wrote numbers in 5 of the 10 circles as shown in the picture.

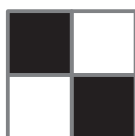


She wants to write a number in each of the remaining 5 circles.  
 She does this in such a way that the sums of the 3 numbers along each side of the figure are equal.

Which number does she have to write in the circle marked by ♥ ?

- A. 7                      B. 8                      C. 11                      D. 13                      E. 15

24. A big cube was built from 8 identical small cubes.  
 Some small cubes are black and some are white.  
 Below you can see 5 of the 6 faces of the big cube.



What does the sixth face of the big cube look like?

