

wereldwijde wiskundewedstrijd

W4Kangoeroe

THURSDAY MARCH 15TH
2018



WWW.W4KANGOEROE.NL

Good luck and most of
all have fun.

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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 at
the end of May



answers will be posted
on the website about
March 25th



solutions will be
posted on the website
about April 16th

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7 & 8 primary school

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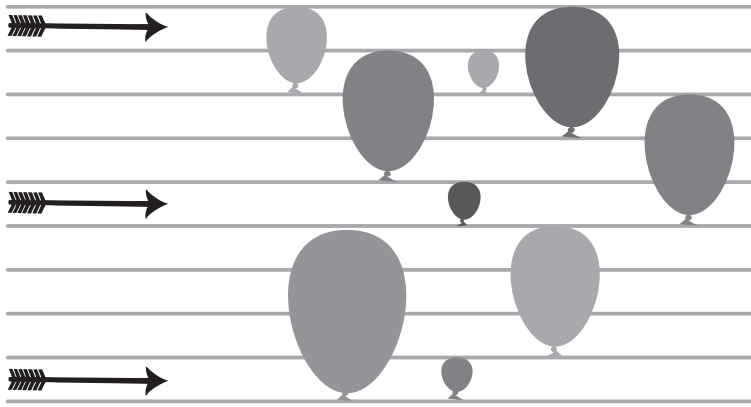
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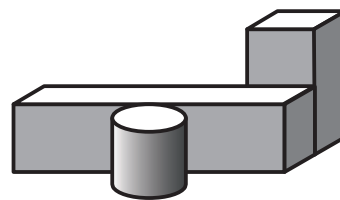
1. The picture shows 3 flying arrows and 9 stationary balloons. When an arrow hits a balloon, the balloon pops and the arrow flies on.



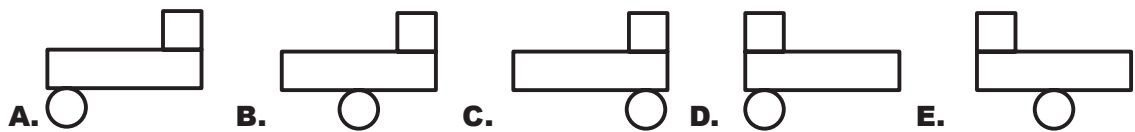
How many balloons will **not** be hit by an arrow?

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

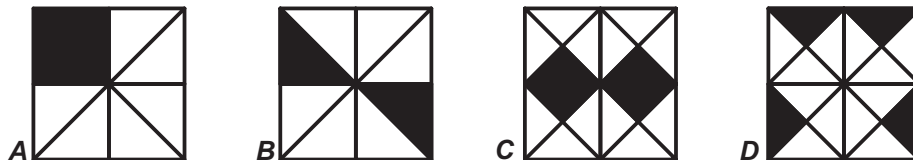
2. 3 blocks lie on the table (see figure).



What does it look like from above?

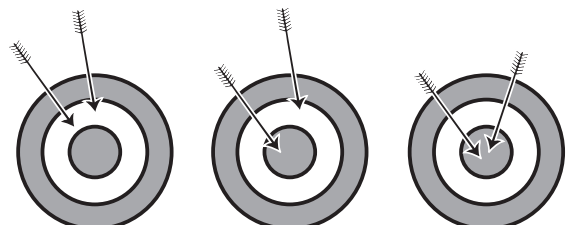


3. Which of the 4 squares has the largest black area?



- A. A B. B C. C D. D
E. All are of the same size.

4. *Diana* shoots arrows at a target (see figure). The first time she scores 14 points. The second time she scores 16 points.



How many points does *Diana* score the third time?

- A. 17 B. 18 C. 19 D. 20 E. 22

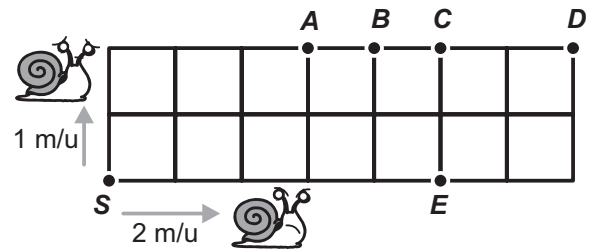
5. The picture shows a calendar of some month. By an accident with an inkpot, most of the days have become covered by ink and are now invisible.



What day is the 25th of this month?

- A. Monday B. Wednesday C. Thursday D. Saturday E. Sunday

6. A terrace consists of 14 equal square tiles. One fast snail and one slow snail crawl along the perimeter of the terrace. Both start at point S, but crawl in different directions (see figure). The slow snail crawls at a speed of 1 meter per hour. The fast snail crawls at a speed of 2 meter per hour.



At what point will the snails meet again?

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

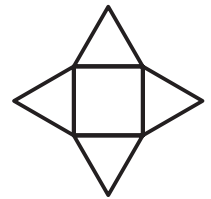
7. Alice has erased 2 digits in an equation (see picture).

$$\text{3 - 2\text{} = 25$$

What result will she get when she adds these 2 erased digits?

- A. 8 B. 9 C. 12 D. 13 E. 15

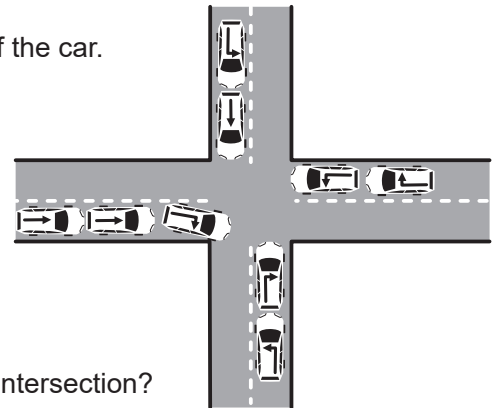
8. A star is made out of 1 square and 4 triangles. All sides of the triangles have the same length. The perimeter of the square is 36 cm.



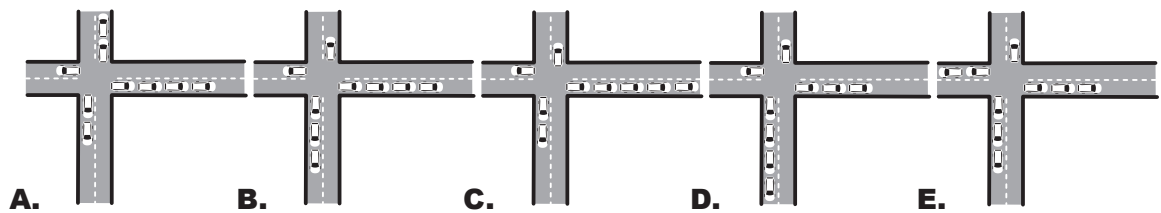
What is the perimeter of the star?

- A. 72 cm B. 90 cm C. 104 cm D. 120 cm E. 144 cm

9. 9 cars arrive at an intersection. They continue in the direction of the arrow drawn on top of the car.



What will the situation be when the cars have passed the intersection?

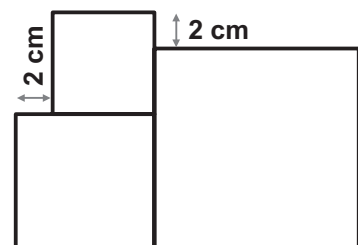


10. Els throws a dice. After every throw she notes the number of dots. She stops whenever she has written down the same number twice.

How many numbers could Els write down at most?

- A. 5 B. 6 C. 7 D. 12 E. 18

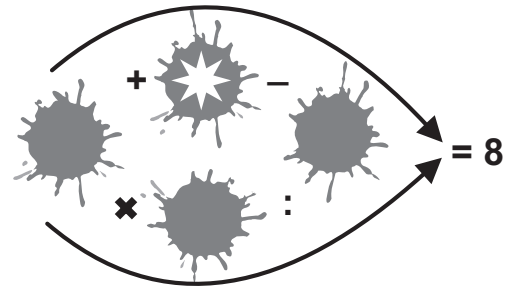
11. The picture shows 3 squares. The length of the sides of the smallest square is 6 cm.



What is the length of the sides of the largest square?

- A. 8 B. 10 C. 12 D. 14 E. 16

12. Each of the spots covers 1 of the numbers 1, 2, 3, 4 or 5, in such a way that the calculations in the directions of the arrows are correct.



Which number is covered by the spot with the star?

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

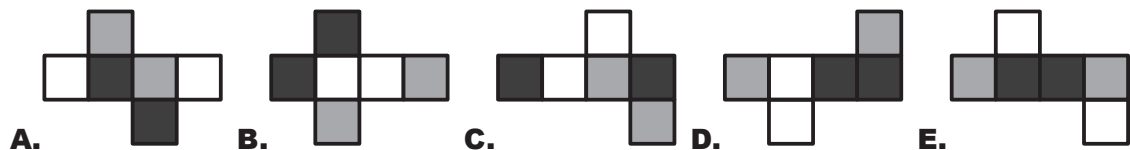
13. 2 girls, *Eva* and *Olga*, and 3 boys, *Adam*, *Isaac* and *Urban*, are playing with a ball. When a girl has the ball, she throws it to the other girl or to a boy. When a boy has the ball, he throws it to another boy, but never to the boy he just got the ball from. *Eva* starts and throws the ball to *Adam*.

Who will be the fifth to throw the ball?

- A. *Adam* B. *Eva* C. *Isaac* D. *Olga* E. *Urban*

14. Painter *Cas* paints the 6 faces of some cube black, grey or white. His boss does not allow opposite faces to get the same colour. When he unfolds the cube, there is 1 net he can not obtain.

Which one is it?

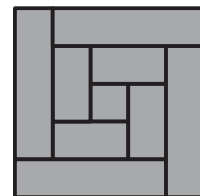


15. *Masha* chooses 3 different digits out of 1, 2, 3, 4, 5, 6 and 7, and adds those. The result she gets is 8. *Daniëlle* also chooses 3 digits from the same sequence and adds those. She gets 7 as a result.

How many equal digits did the girls choose?

- A. none B. 1 C. 2 D. 3 E. Impossible to know.

16. *Peter* is sawing an 8 cm wide wooden plank into 9 pieces. 1 piece will be square, the other pieces will be rectangular. Out of these pieces he makes the figure shown.



What was the length of the plank?

- A. 150 cm B. 168 cm C. 196 cm D. 200 cm E. 232 cm

17. When you add the ages of *Kate* and her mother, you will get 36. When you add the ages of her mother and her grandma, you will get 81.

How old was grandma when *Kate* was born?

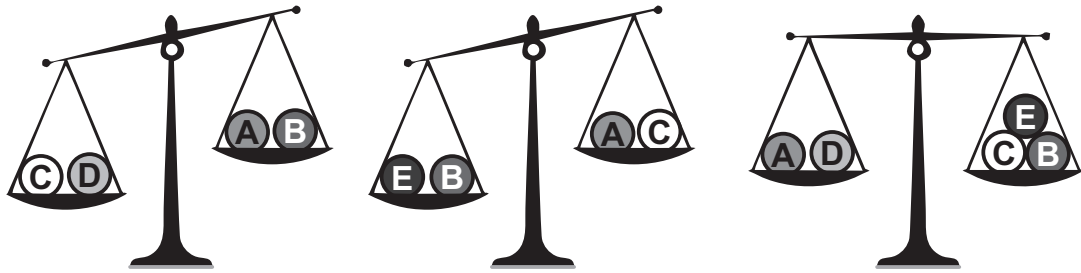
- A. 28 B. 38 C. 45 D. 53 E. 56

18. *Nick* would like to divide the numbers from 2 through 10 into groups, in such a way that the sum of the numbers in each group is the same.

What is the largest number of groups he can make?

- A. 2 B. 3 C. 4 D. 6 E. a different number

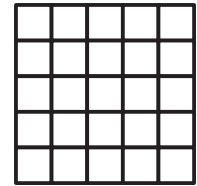
19. The weights of 5 balls are, in order: 30 g, 50 g, 50 g, 50 g and 80 g. Look at the 3 pictures with the scales shown below.



Which ball weighs 30 g?

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

20. Aleyna has a grid in front of her (see figure). In each cell of the grid she writes a 0 or a 1. She does it in such a way that each 2 x 2 square of the grid contains exactly three equal numbers.



At most how many times could Aleyna have written down the number 1?

- A. 18 B. 19 C. 20 D. 21 E. 22

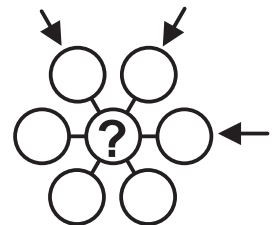
21. 14 persons are seated at a round table (see picture). Each person either lies always or always speaks the truth. Every person at the table says: "Both of my neighbours always lie."



What is the largest possible number of persons that always lie?

- A. 7 B. 8 C. 9 D. 10 E. 14

22. The numbers from 3 through 9 are placed in the 7 circles (see figure) in such a way that the sum in each of the three directions (see arrows) is the same. At the position of the question mark, different numbers could be put. Frits adds up these possible numbers.



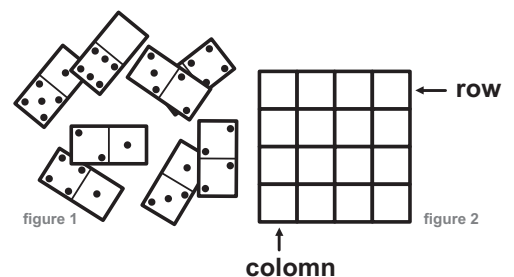
What will be the result?

- A. 3 B. 6 C. 9 D. 12 E. 18

23. A, B and C indicate different digits. Which of the following numbers can not be the largest?

- A. AAABBC B. CAAABB C. BBAAAC D. AAABCB E. AAACBB

24. 8 dominoes lie on the table (figure 1). Mats puts these dominoes in a grid (figure 2). He adds up the numbers in each row and in each column and finds the same number every time. One domino is partly covered.



How many spots does the covered part have?

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