wizBRAIN 2025

WERELDWIJDE WISKUNDEWEDSTRIJD

W4 KANGOEROE 2025

WWW.W4KANGOEROE.NL

COMPETITION PERIOD

MARCH 20 TO 31

GOOD LUCK AND MOST OF ALL HAVE FUN !

calculators are not allowed

you may use 75 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 Aprl 4th

solutions will be posted on the website about April 20th

wizBRAIN
havo 1, 2 & 3
vwo 1 & 2
vmbo 3 & 4 m.u.v. basisberoepsgerichte leerweg.

1. *Lisa* made four digits out of wood.
She can use these to make the number 2025, for example.

Which of the following numbers is the largest she can make with these digits?

A. 2502 **B.** 5202 **C.** 5220 **D.** 5502 **E.** 5520

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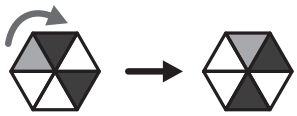
2. *Isabelle* rotates the hexagonal sheet of paper as shown..



After how many rotations does the sheet of paper looks the same as it did at the START?

A. 3 **B.** 6 **C.** 7 **D.** 8 **E.** 9

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3. *Sandra* rolls three dice and gets a total of 8 dots.
She rolls a different number of dots with each die.

What number of dots did *Sandra* definitely **not** roll with one of her dice?

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

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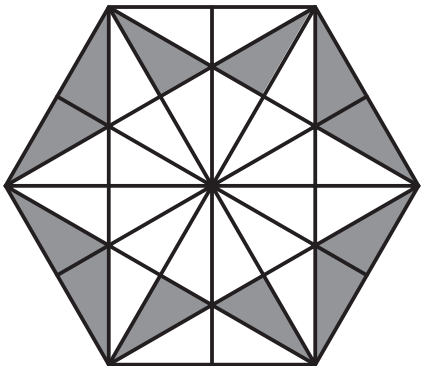
4. The regular hexagon below is divided into small triangles of equal area.



What fraction of the hexagon is coloured grey?

A. $\frac{1}{6}$ **B.** $\frac{1}{5}$ **C.** $\frac{1}{4}$ **D.** $\frac{1}{3}$ **E.** $\frac{1}{2}$

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5. How many times does 12 minutes fit into 12 hours?

A. 6 **B.** 10 **C.** 12 **D.** 24 **E.** 60

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6. *Daniël* is 5 years old. His brother *Dominic* is 6 years older.

What will be the sum (addition) of their ages in 7 years?

A. 26 **B.** 27 **C.** 28 **D.** 29 **E.** 30

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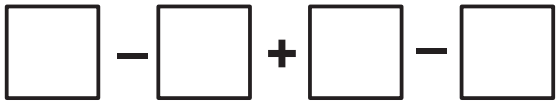
7. *Ohad* wants to write the four digits 2, 0, 2 and 5 in the four boxes of the calculation shown.



What is the smallest result *Ohad* could get?

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

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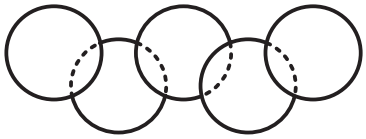
8. There are ten more knights than villains in a room.
Knights always speak the truth and villains always lie.
Everyone in the room is asked, ‘Are you a knight?’
Everyone answers ’Yes’ or ‘No’.
In total, twenty people answer ‘Yes’.

How many villains are there in the room?

A. 0 **B.** 5 **C.** 15 **D.** 20 **E.** 25

9. Five circles, each with an area of 8 cm², overlap to form the figure below.
The area of each section where two circles overlap is 1 cm².



What is the total area covered by the figure?

A. 32 cm² **B.** 36 cm² **C.** 38 cm² **D.** 39 cm² **E.** 42 cm²

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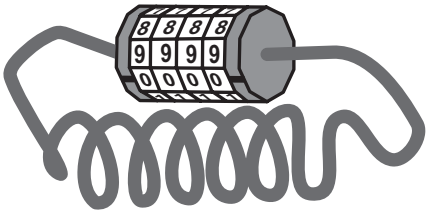
10. The bicycle lock in the figure is now set to '0000'.
However, *Paul* sees from the side the code '8888'.
If the combination of the lock is set correctly, *Paul* sees the code '2815'.



What is the combination of his lock?

A. 0639 **B.** 0693 **C.** 4037 **D.** 4693 **E.** 9603

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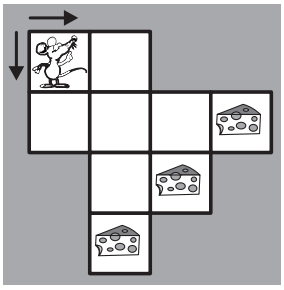
11. *Matijas* the mouse wants to get to a piece of cheese.
He can only move horizontally or vertically from one cell to another.



How many different shortest routes can *Matijas* take to get to a piece of cheese?

A. 3 **B.** 5 **C.** 8 **D.** 10 **E.** 11

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12. There are five hurdles in a 60-meter hurdles race.
The first hurdle is after 12 meters.
The gap between any two consecutive hurdles is 8 meters.

What is the distance between the last hurdle and the finish line?

A. 8 m **B.** 10 m **C.** 12 m **D.** 14 m **E.** 16 m

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13. The menu of my favourite Burger restaurant is written in chalk on a blackboard.
The rain has washed away some numbers, but I know that the burgers are sorted by price, in increasing order from top to bottom.

How much does a Deluxe burger cost at least?

A. € 5,80 **B.** € 6,80 **C.** € 7,80 **D.** € 8,80 **E.** € 9,80

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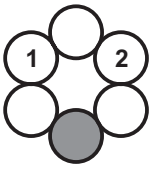
14. *Edgar* wants to write a number in each circle of the figure on the right.
That number must be equal to the sum of the numbers in the two adjacent circles.
He has already written down two numbers, as shown.



What number should he write in the grey circle?

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

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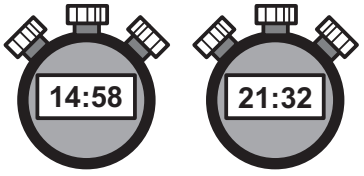
15. *Werner* is on a treadmill in the gym.
He keeps looking at two stopwatches.
The first shows the time elapsed since he started his session and the second the remaining time until the end of his session.
At a certain moment, the two stopwatches display the same value.



What will *Werner* see on both stopwatches at that moment?

A. 17:50 **B.** 18:00 **C.** 18:12 **D.** 18:15 **E.** 18:20

16. *Alex* has some 1 and 2 Euro coins in his pocket.
He has 50% more 1 Euro coins than 2 Euro coins. He has 35 Euros in total.

How many 2 Euro coins does *Alex* have?

A. 4 **B.** 6 **C.** 8 **D.** 10 **E.** 12

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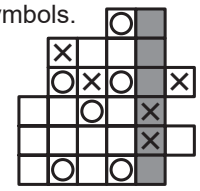
17. *Morten* wants to fill in the cells in the diagram so that each cell contains either a cross or a circle.
He also wants to ensure there is no row, column or diagonal with four consecutive identical symbols.



When the diagram is completed, what will the grey coloured column contain?

A. 1 circle and 5 crosses **B.** 2 circles and 4 crosses **C.** 3 circles and 3 crosses
D. 4 circles and 2 crosses **E.** There are several possibilities.

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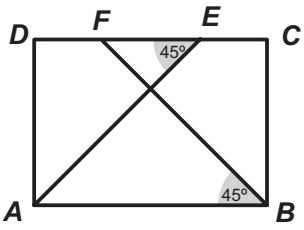
18. In rectangle *ABCD*, points *E* and *F* are indicated on side *CD*, see figure.
Also is given that *AB* + *EF* = 20 cm.



What is the length of *BC*?

A. 4 cm **B.** 6 cm **C.** 8 cm **D.** 10 cm **E.** 12 cm

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19. *Sanja* has two bowls with numbered balls.
Bowl A contains seven balls numbered 1, 2, 6, 7, 10, 11 and 12.
Bowl B contains five balls numbered 3, 4, 5, 8 and 9.

Which ball should *Sanja* move from bowl A to bowl B to increase the average of the numbers on the balls in both bowls?

A. 6 **B.** 7 **C.** 10 **D.** 11 **E.** 12

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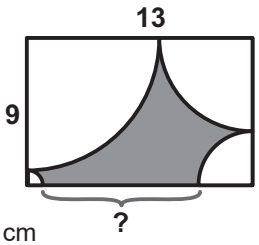
20. *Peter* has drawn four quarter circles on a flag with dimensions of 13 cm by 9 cm.
The centres of these circles are each on a corner of the flag.
Next, he coloured the resulting area grey, as shown.



What is the length of the piece indicated by the question mark?

A. 5 cm **B.** 6 cm **C.** 7 cm **D.** 8 cm **E.** 9 cm

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21. In the six-digit integer *PAPAYA*, different letters represent different digits, and the same letter always means the same digit.
Also, $Y = P + P = A + A + A$.

What is the value of $P \times A \times P \times A \times Y \times A$?

A. 234 **B.** 243 **C.** 324 **D.** 342 **E.** 432

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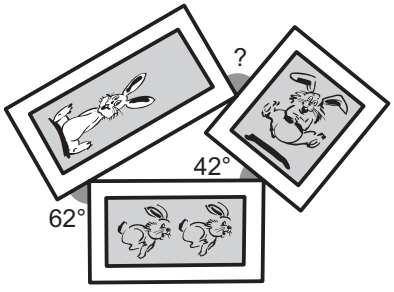
22. *Louis* hangs three rectangular pictures on the wall, see figure.



How big is the angle at the question mark?

A. 64° **B.** 70° **C.** 72° **D.** 76° **E.** 80°

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23. *Inge* and *Kirsten* shoot a total of 17 penalties.
Inge scored 75% of her penalty shots and *Kirsten* scored 60% of her penalty shots.

How many times did *Inge* score?

A. 6 **B.** 7 **C.** 8 **D.** 9 **E.** 10

24. *Karim* leaves for school in the morning.
His school is 1 km away.
When he walks, his speed is 4 km/h.
When he cycles, his speed is 15 km/h.
He is 5 minutes early when he walks.

How many minutes early does he arrive when he cycles?

A. 12 **B.** 13 **C.** 14 **D.** 15 **E.** 16

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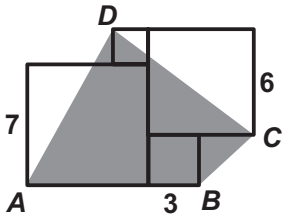
25. *Ria* places four squares against each other, as shown.



What is the area of the grey quadrilateral?

A. 54 **B.** 60 **C.** 66 **D.** 72 **E.** 80

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26. The letters *p*, *q*, *r*, *s* en *t* represent five consecutive positive integers, though not necessarily in that order.
The sum of *p* and *q* is 69 and the sum of *s* and *t* is 72.

What is the value of *r* ?

A. 34 **B.** 35 **C.** 36 **D.** 37 **E.** 39

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27. Some birds, including *Kwik*, *Kwek*, *Kwak* and *Katrien*, sit on four wires hanging parallel, one above the other.
There are 10 birds sitting above *Kwik*.
There are 25 birds above *Kwek*.
There are 5 birds below *Kwak*.
There are 2 birds below *Katrien*.
The number of birds above *Katrien* is a multiple of the number of birds below her.

How many birds in total are there on the four wires?

A. 27 **B.** 30 **C.** 32 **D.** 37 **E.** 40

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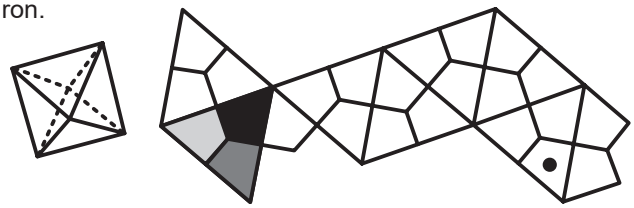
28. The right figure below shows the net of an octahedron.



Each face of the octahedron is divided into three parts with different colours: black, dark grey and light grey.
The parts that meet in a vertex have the same colour.

Which colour could the part marked with a dot be coloured?

A. Only black **B.** Only dark grey **C.** Only light grey
D. Both black and dark grey are possible
E. Both black and light grey are possible.

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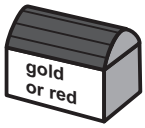
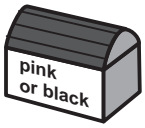
29. *Adira* keeps gold, red, black, pink and white pearls in five small boxes.
Each box contains pearls of exactly one colour.
On the boxes is written information about the colours of the pearls inside them.
Adira's friend *Lilly* wants to know which box contains the golden pearls.
She may open exactly one of the five boxes to look at the contents.

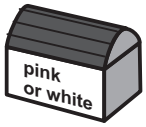
What box should *Lilly* open to be certain which of the boxes contains the golden pearls?

A. 

B. 

C. 

D. 

E. 

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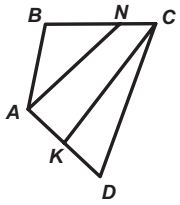
30. In the quadrangle *ABCD*, points *N* and *K* are marked on sides *BC* and *AD*, so that *BN* is twice as long as *NC* and *AK* = *KD*.
The area of triangle *CKD* is 2, and the area of triangle A*BN* is 6.



What is the area of quadrilateral *ABCD*?

A. 13 **B.** 14 **C.** 15 **D.** 16 **E.** 17