MATEMATIKKSENTERET
Nasjonalt senter for matematikk i opplæringen

2025

KENGURUKONKURRANSEN

Problems in English

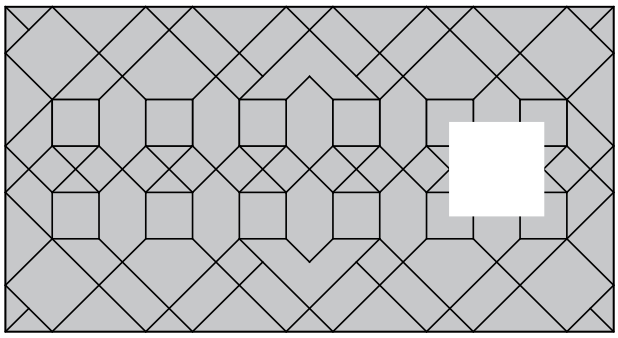
Benjamin

(6.–8. trinn)

NTNU
Kunnskap for en bedre verden

3 poeng

1. Which of the pieces shown would complete the pattern?



(A) (B) (C) (D) (E)

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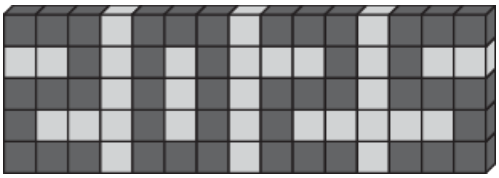
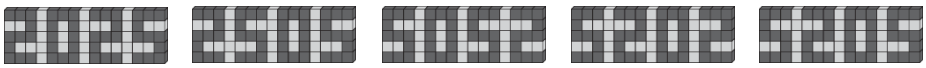
2. Anna has built a wall that displays the year 2025.
Bella stands on the other side of the wall.



What does Bella see?



(A) (B) (C) (D) (E)

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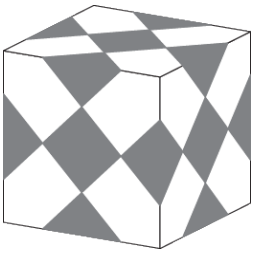
3. A cube is decorated by gluing identical grey squares on it.
All faces of the cube look the same.



How many grey squares are there in total?

(A) 14 (B) 15 (C) 16 (D) 18 (E) 30

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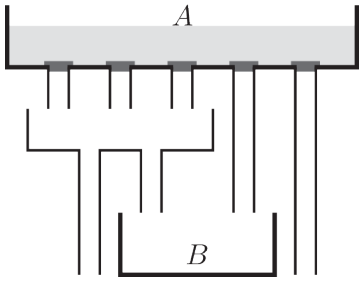
4. Container A holds 10 litres of water. All five plugs at the bottom of container *A* are taken out at the same time and the water flows out.



What volume of water flows into container *B*?

(A) 3 litres (B) 4 litres (C) 5 litres (D) 6 litres (E) 8 litres

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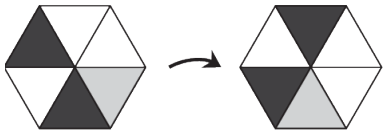
5. Thea rotates a piece of paper divided into six equal parts.
When the paper is rotated, it is turned clockwise one part.
The original sheet of paper and the result of one rotation are shown in the diagram.



What does the sheet of paper look like after a total of eight rotations?

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6. The menu of my favorite burger restaurant is written on a board.
However, the rain has washed away some of the numbers.
The burgers are ordered by price.

Which of the following is the price of one of my burgers?

(A) 4.10 (B) 5.50 (C) 5.60 (D) 6.30 (E) 6.60

7. Six children took part in a race.
- Ariana finished in the third place.
- Brian finished sixth, just behind Edvin.
- Fatima finished between Ariana and Edvin.
- Diana overtook Charles right before the finish line.

Who won the race?

(A) Ariana (B) Charles (C) Fatima (D) Edvin (E) Diana

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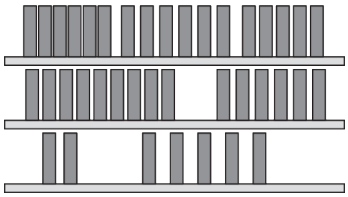
8. A bookshelf with three shelves has 17 books on the top shelf, 15 books on the middle shelf, and 7 books on the bottom shelf. Monika wants all shelves to have the same number of books on. She also wants to move as few books as possible.



How many books should she move from the middle shelf to the bottom shelf?

(A) 1 (B) 2 (C) 3 (D) 4 (E) 5

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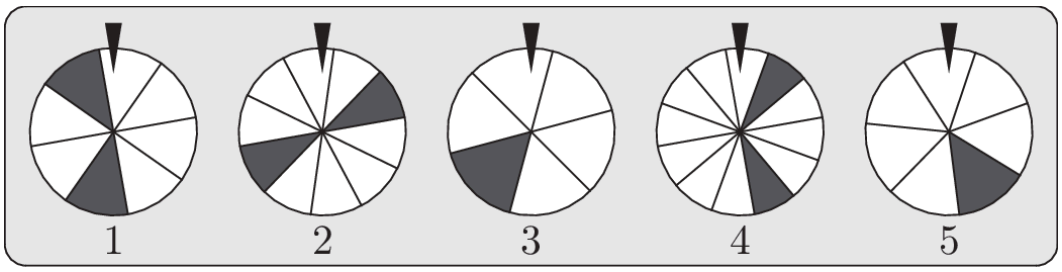
4 poeng

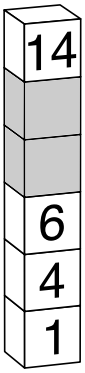
9. The picture shows five wheels of fortune. Each wheel is divided into a different number of identical parts. You will win a prize when the wheel is spun and then stops with the triangle above the wheel pointing to a part that is shaded.



Which wheel gives you the best chance of winning?

(A) 1 (B) 2 (C) 3 (D) 4 (E) 5

10. Vera has built a tower of blocks.
She wants to replace the two grey blocks
with two blocks with numbers on.
She wants the number on each block in her tower
to be at least 2 more than the number on the block below it.



In how many ways can Vera do this?

(A) 3 (B) 4 (C) 5 (D) 6 (E) 7

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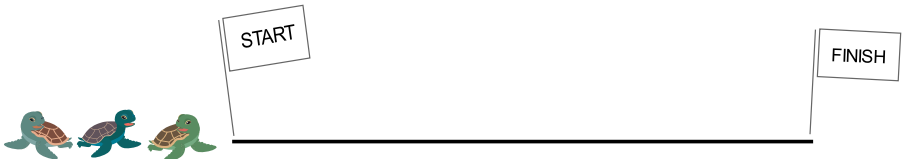
11. Three turtles participate in a 10-metre race.
Each of them moves at a constant speed.
When the first turtle finishes, the second turtle has covered $\frac{1}{4}$ of the distance,
and the third turtle has covered $\frac{1}{5}$ of the distance.



How far from the finish line will the third turtle be when the second turtle finishes?

(A) 1 m (B) 2 m (C) 3 m (D) 4 m (E) 5 m

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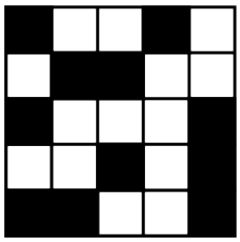
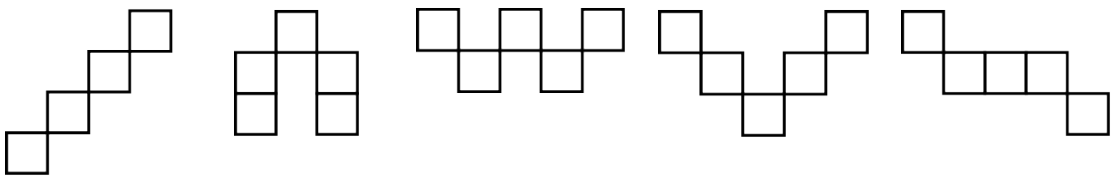
12. Which shape, or any rotation of the shape, cannot be placed onto the white parts of the large square?





(A) 1 (B) 2 (C) 3 (D) 4 (E) 5

13. My school's swimming team is practising for a relay competition.
Five swimmers swam the same distance, one after the other.
The pictures below show the times on their coach's stopwatch when each swimmer had finished their leg.
The first swimmer needed 2 minutes and 8 seconds.

Which one of the swimmers needed the least time?

(A) the first (B) the second (C) the third (D) the fourth (E) the fifth

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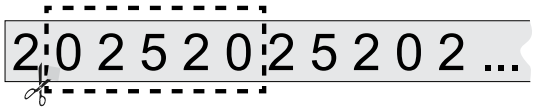
14. Mika has written the numbers 2, 0, 2, 5 in a repeating pattern on a strip of paper.

From the strip he cuts out 10 equal pieces as shown in the picture below.



What is the smallest number of digits Mika could have written on the strip of paper?

(A) 75 (B) 76 (C) 78 (D) 80 (E) 81

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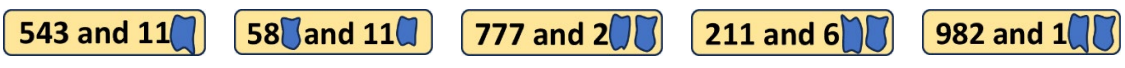
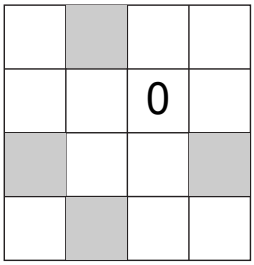
15. Each of the cards shown below have two 3-digit numbers written on them, but some of the digits cannot be seen as they are covered in ink.
On one of the cards, the sum of the digits of both numbers is the same.

On which card are those two numbers?



(A) (B) (C) (D) (E)

16. Hasan wants to write a 0 or a 1 in each cell of the diagram so that the sum of the numbers in each row, column and diagonal is 3. He has already written a 0 in one of the cells.



When he finishes, what will the sum of the numbers in the grey cells be?

(A) 0 (B) 1 (C) 2 (D) 3 E) 4

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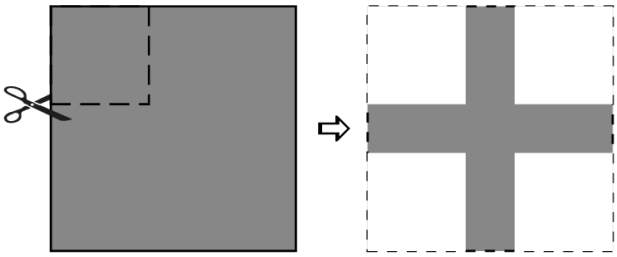
5 poeng

17. Janáina cuts four identical squares from the corners of a square sheet of paper, as shown. The total area she cut off is 16 cm^2 and the area of the cross that remains is 9 cm^2.



What is the perimeter of the cross in cm?

(A) 9 cm (B) 16 cm (C) 20 cm (D) 25 cm (E) 32 cm

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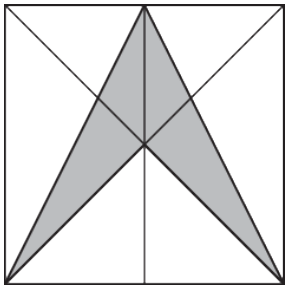
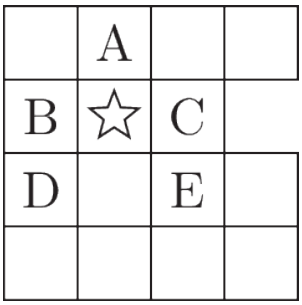
18. The side-length of the square shown in the diagram is 10 cm. The line down in the middle of the square divides it into two equal rectangles.



What is the area of the shaded region?

(A) 12,5 cm^2 (B) 25 cm^2 (C) 30 cm^2 (D) 40 cm^2 (E) 50 cm^2

19. Joanna divides the figure shown into five equally shaped parts, each consisting of three squares.



Which lettered square is in the same part as the square marked with the star?

(A) A (B) B (C) C (D) D (E) E

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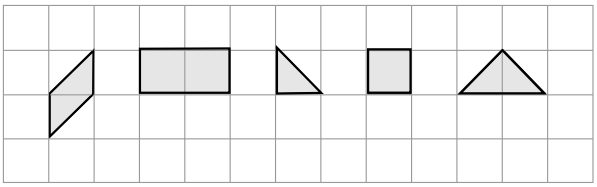
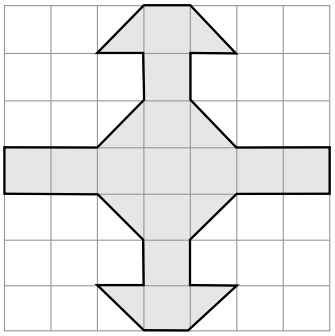
20. Julio wants to construct this figure shown in the picture using pieces shaped like the ones below.
He has many copies of each piece and knows he can rotate them if needed.
The pieces must not overlap.





What is the smallest number of pieces he could use to construct the figure?

(A) 11 (B) 12 (C) 13 (D) 14 (E) 15

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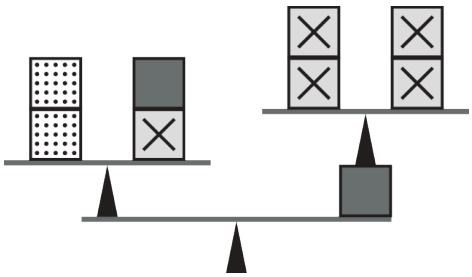
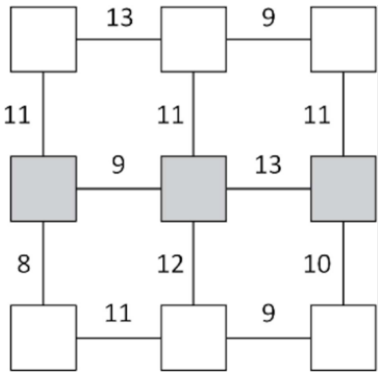
21. Some blocks are balanced on top of each other, as shown.
Blocks that are shaded in the same way have the same weight.
Ville wants to order the three different types of square block from lightest to heaviest.



What order should Ville obtain?

22. Patricia wants to write the numbers from 1 to 9 into the squares in the diagram, with one number in each square. She wants the sum of the numbers in any two adjacent squares to be equal to the number shown on the line joining these squares.



What is the sum of the numbers she writes in the shaded row?

(A) 16 (B) 17 (C) 18 (D) 20 (E) 21

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23. Sara had three times as many chocolates as Sanaz.
Sara then gave a quarter of her chocolates to Sanaz.
Sara now has six more chocolates than Sanaz.

How many more chocolates than Sanaz did Sara have originally?

(A) 36 (B) 30 (C) 27 (D) 24 (E) 20

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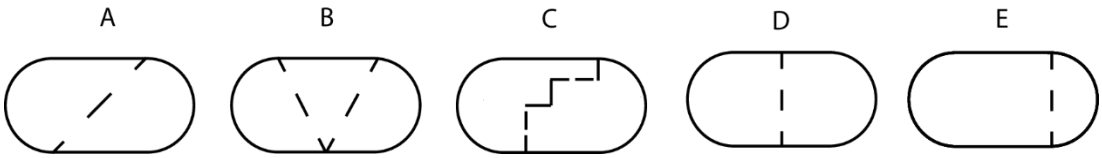
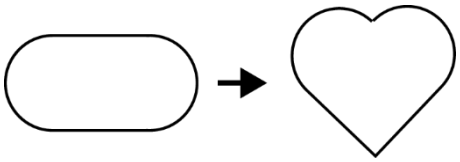
24. Five paper templates are marked with dashed lines.



By cutting along the dashed lines, three of the templates can be puzzled into a heart without overlapping.



Which three templates are these?

(A) A, C and E (B) B, C and E (C) C, D and E (D) A, B and C (E) A, B and D

Answer sheet for the student

Name: .....

Mark your answer in the schema below

Problem	A	B	C	D	E	Points
1						
2						
3						
4						
5						
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					Sum	

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