Three points problems

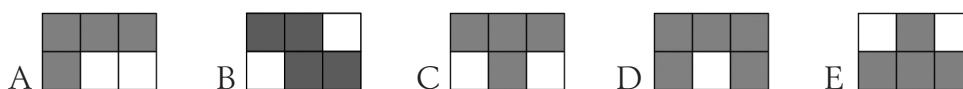1   Which piece completes the pattern?

A   B   C   D   E
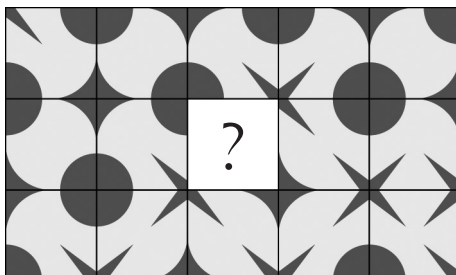
2   A mushroom grows every day.
Mary takes a picture of the mushroom each day from Monday to Friday.
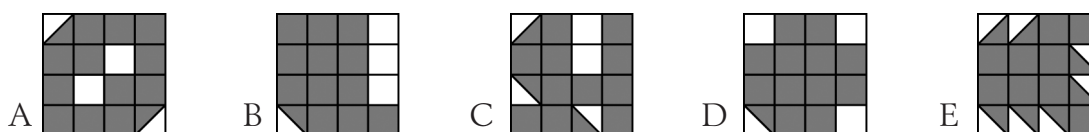Which of these pictures was taken on Tuesday?

A   B   C   D   E

3   Tore shades all the squares in the grid where the result is 20.

$16 + 4$	$19 + 1$	$28 - 8$
$2 \cdot 10$	$16 - 4$	$7 \cdot 3$

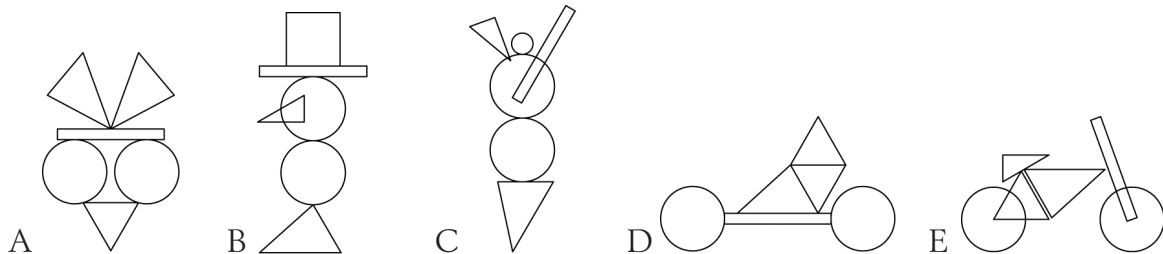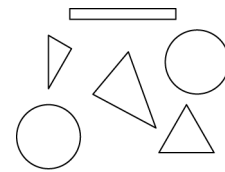Which shape does he get?

A   B   C   D   E

4   Which of the following figures has the largest shaded part?

A   B   C   D   E

5   Which of the figures below can you make with these pieces?
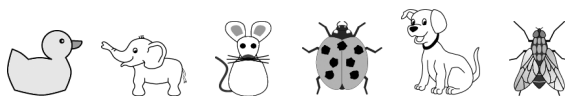
A   B   C   D   E

6   Ellen draws the big square with chalk on the pavement.
She starts jumping from number 1.
She jumps from each number to the number that is 3 more
again and again.
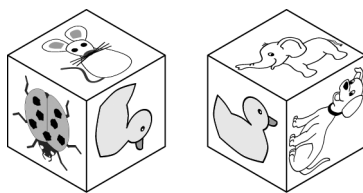What is the largest number Elli can jump onto?

1	5	8	11
4	7	10	14
24	23	13	18
21	19	16	20

A: 11   B: 14   C: 18   D: 19   E: 24

7   Jorge glues these 6 stickers to the faces of a cube.
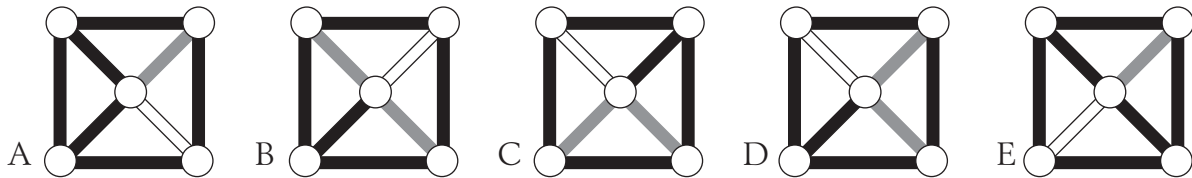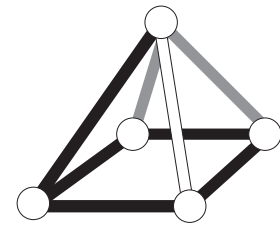
The pictures below shows the cube in two positions.

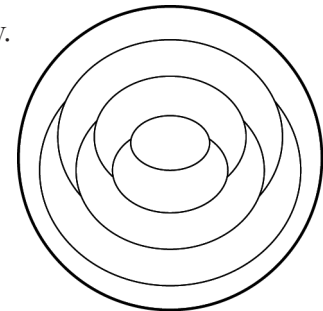Which sticker is on the opposite face to the duck?

A   B   C   D   E

8   Loes looks at the pyramid from above. What does Loes see?

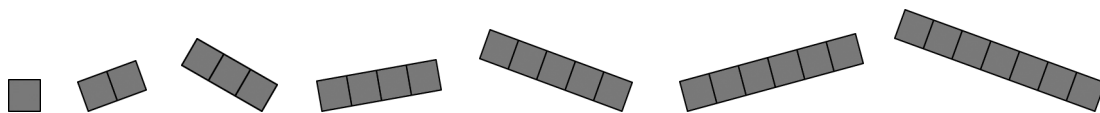A   B   C   D   E

Four points problems

9   Cindy colours each region on the plate either red, blue or yellow.
     She colours neighbouring regions with different colours.
     She colours the outer ring of the plate red.
     How many regions are red?
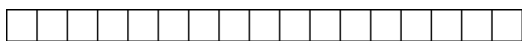
     A: 1   B: 2   C: 3   D: 4   E: 5

10   Kasper has the following 7 pieces:

     He covers this grid below without overlap.
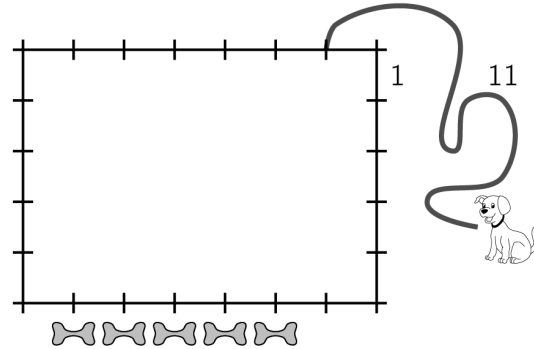   He uses as many different pieces as possible.

     How many pieces does Kasper use?

     A: 3   B: 4   C: 5   D: 6   E: 7

11 Dennis ties a dog 1 meter from a corner of a 7 meters by 5 meters hut as shown in the picture using an 11 meters long leash. Dennis places treats at the places you can see.

How many of the treats could the dog reach?

A: 1   B: 2   C: 3   D: 4   E: 5

12 Liam builds a fence using 1 meter long poles:
The picture shows a 4 meters long fence.
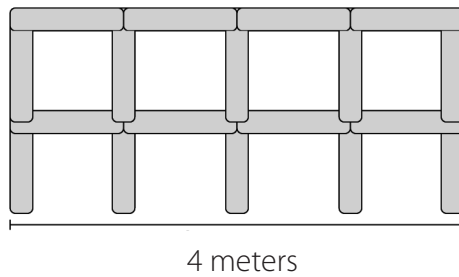
4 meters

How many poles does Liam need to build a 10 meters long fence?

A: 22   B: 30   C: 33   D: 40   E: 42

13 Every time the kangaroo goes up 7 steps, the rabbit goes down 3 steps.

On which step do they meet?

A: 53   B: 60   C: 63   D: 70   E: 73

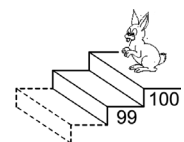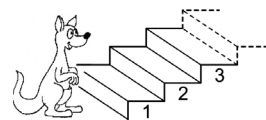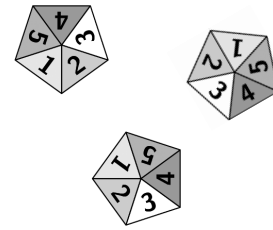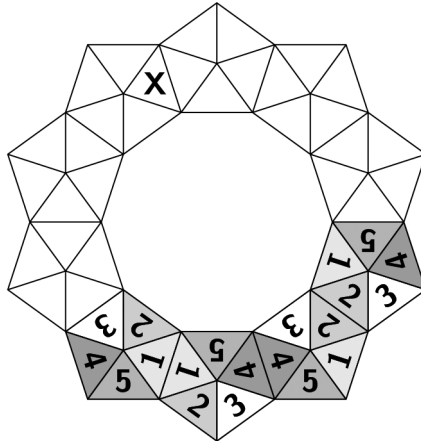14 Amelie wants to build a crown using tokens like these:
When two tokens share a side, the corresponding numbers
match.

Four tokens have already been placed.

Which number goes in the triangle marked with an X?

A: 1   B: 2   C: 3   D: 4   E: 5

15 Farid has two types of sticks: short ones, measuring 1 dm and long ones, measuring 3 dm.
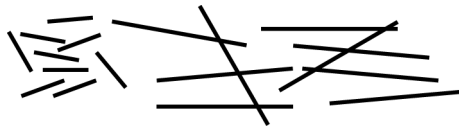
With which of the combinations below can he make a square,
without breaking or overlapping the sticks?

A: 5 short och 1 long   B: 3 short och 3 long   C: 6 short

D: 4 short och 2 long   E: 6 long

16 Tor has 10 boxes.
He puts five pencils in five different boxes and four erasers in four different boxes.
Now two of the boxes contain both an eraser and a pencil.
How many boxes are empty?

A: 4   B: 3   C: 2   D: 1   E: none of the ten boxes are empty

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Five points problems

17 The numbers from 1 to 8 were written on the board.
If you add the four numbers covered by triangles the sum is 10.
If you add the three numbers covered by squares the sum is 20.
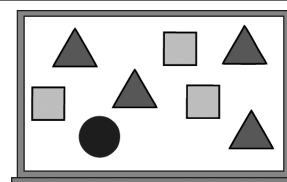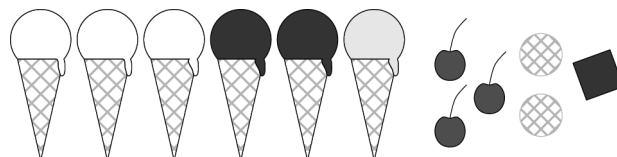Which number is covered by the circle?

A: 3   B: 4   C: 5   D: 6   E: 7

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18 Six children each order one scoop of ice cream.
Three of them order vanilla, two order chocolate and one orders lemon.
Three children choose a cherry, two choose a wafer and one chooses chocolate chip as topping.

They use one topping on each ice-cream such that no two ice creams are alike.
Which of the following combinations is *not* possible?

A: chocolate with a cherry   B: vanilla with a cherry   C: lemon with a wafer

D: chocolate with a wafer   E: vanilla with a chocolate chip

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19 Karin has three numbers.
The sum of three numbers is 50.
Karin subtracts a secret number from each of these three numbers.
She gets 24, 13 and 7 as the results.
Which is the secret number?

A: 37   B: 26   C: 6   D: 3   E: 2

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20 The Queen tries to find out the three names of Rumpelstiltskin's wife.
She asks her:

"Are you called Adele Lilly Cleo?"
"Are you called Adele Laura Cora?"
"Are you called Abbey Laura Cleo?"

Each time exactly one name and its position was right.
What is the name of Rumpelstiltskin's wife?

A: Abbey Lilly Cora   B: Abbey Laura Cora   C: Adele Laura Cleo

D: Adele Lilly Cora   E: Abbey Laura Cleo

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21 Jan wants to colour the heads, wings and tails of parrots with three different colours: red, blue and green.
    He colours one parrot's head red, the wings green and the tail blue.
    How many more parrots can he colour so that all the parrots are coloured differently?

   A: 1   B: 2   C: 4   D: 5   E: 9

22 Several teams came to the summer Kangaroo camp. Each team has 5 or 6 members.
    There are 43 people in total.
    How many teams are at this camp?

    A: 9   B: 8   C: 7   D: 6   E: 4

23 There is a row of books of different size on a shelf.
    There are 20 books to the left of the largest book and 22 books to the right of the smallest book. The largest book and the smallest book are both adjacent to the oldest one.
    What is the smallest possible number of books on the shelf?

    A: 40   B: 41   C: 42   D: 43   E: 45

24 There are three rulers in a box with length 18 cm.
    The grey ruler is 1 cm shorter than the black one.
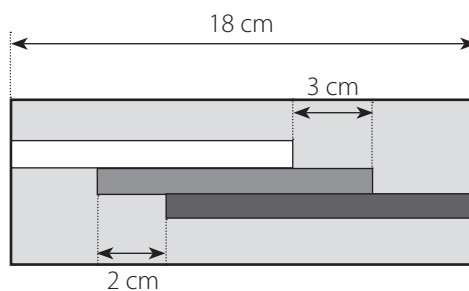
    What is the length of the white ruler?

    A: 12 cm   B: 13 cm   C: 14 cm   D: 15 cm   E: 17 cm