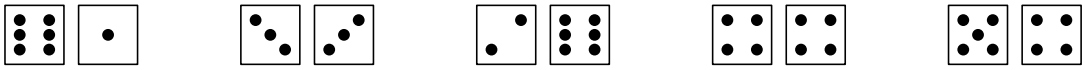
Year 3 and 4 (ENGLISH VERSION)

Thursday, 17th March 2016 Time allowed: 75 minutes

1. For each question exactly one of the 5 options is correct.
2. Each participant is given 24 points at the beginning. For each correct answer 3, 4 or 5 points are added. No answer means 0 points are added. If a wrong answer is given, one quarter of the points is subtracted, i. e. 0.75 points, 1 point or 1.25 points, respectively. At the end, the maximum number of points is 120, the minimum is 0.
3. Calculators are not allowed.

3 point problems

A1 Amy, Bert, Carl, Doris and Emil roll two dice each.

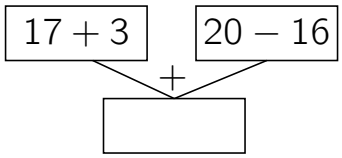


Amy Bert Carl Doris Emil

Then each child adds the number of dots. Who rolled the largest total?

(**A**) Amy (**B**) Bert (**C**) Carl (**D**) Doris (**E**) Emil

A2 Which number is the result of the calculation on the right?

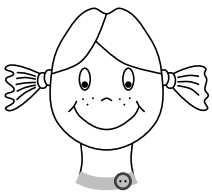


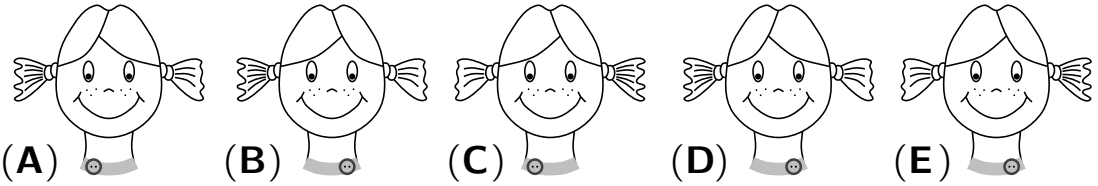
(**A**) 24 (**B**) 28 (**C**) 36 (**D**) 46 (**E**) 54

A3 My baby hamster is 2 weeks and 2 days old.
In how many days will my baby hamster be 3 weeks old?

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

A4 Today Klara wears pigtails and a necklace as shown on the right.
What does Klara see when she looks at herself in the mirror?

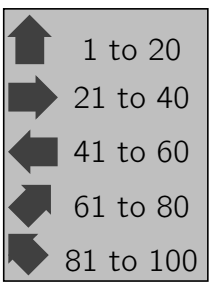




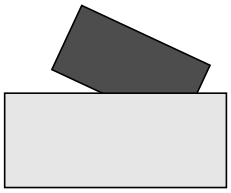
(**A**) (**B**) (**C**) (**D**) (**E**)

A5 Geoff goes with his father to a circus. Their seats are numbered 71 and 72. Which way must they go?

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



A6 The small dark rectangle is partly hidden behind the large light rectangle. What shape is the hidden part of the dark rectangle?

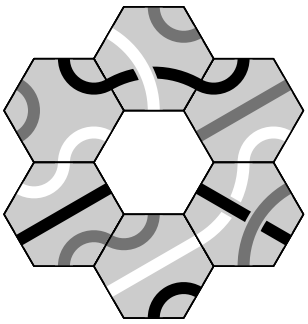


(**A**) a square (**B**) a hexagon (**C**) a pentagon
(**D**) a triangle (**E**) an octagon

A7 Arno brought some apples and divides them between himself and 5 friends. Everyone gets half of an apple. How many apples did Arno bring?

(**A**) 2 (**B**) 3 (**C**) 4 (**D**) 5 (**E**) 6

A8 Which of the following tiles fits in the middle of the puzzle such that black lines meet black lines, grey lines meet grey lines and white lines meet white lines?



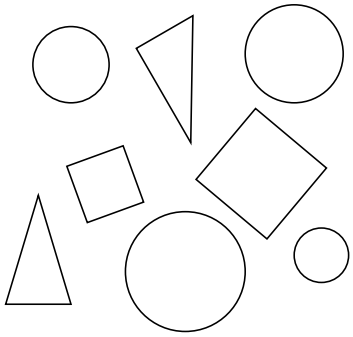
(**A**)  (**B**)  (**C**)  (**D**)  (**E**) 

4 point problems

B1 Lena thought of a password. It has more than 6 characters. The last two characters are digits. The letters L, E, N and A are contained, but only two of them are capitalized. Which of the following could be Lena's password?

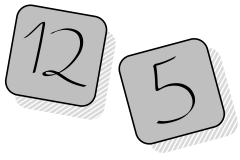
(**A**) elan184 (**B**) L5e1n2A (**C**) 1AneL73 (**D**) LEnA63 (**E**) le592na

B2 Which one of the following sentences correctly describes the picture?



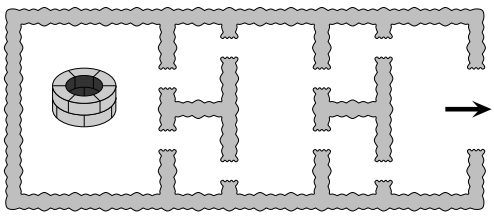
(**A**) There are as many circles as squares.
(**B**) There are fewer circles than triangles.
(**C**) There are more squares than triangles.
(**D**) There are two triangles more than squares.
(**E**) There are twice as many circles as triangles.

B3 Each of the two cards shown has a number on the front and a number on the back. The sum of the 2 numbers on the left card is equal to the sum of the 2 numbers on the right card. The sum of all 4 numbers is 32.
Which number is written on the back of the left card?



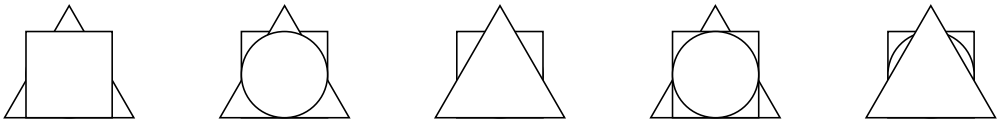
(**A**) 7 (**B**) 5 (**C**) 3 (**D**) 6 (**E**) 4

B4 In our park there is a small maze with a well. How many different possibilities are there to get from the well to the exit, without passing through the same gate more than once?



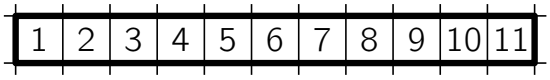
(**A**) 2 (**B**) 4 (**C**) 5 (**D**) 7 (**E**) 8

B5 A paper square, a paper triangle and a paper circle are placed on top of each other in different orders. In how many piles is the triangle placed above the square?



(**A**) four (**B**) three (**C**) two (**D**) one (**E**) none

B6 On squared paper Madu draws a bold line around a row of 11 consecutive squares. Then he paints 8 consecutive squares red.
Which of the 11 squares are now *certainly* red?

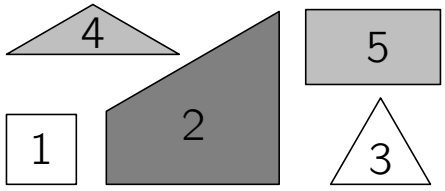


(**A**) 1 to 8 (**B**) 3 to 9 (**C**) 4 to 8 (**D**) 5 to 10 (**E**) 4 to 11

B7 Magic trees grow in a magic garden. Each tree bears either 6 pears and 3 apples or 8 pears and 4 apples. In total there are 25 apples in the magic garden. How many pears are there in the magic garden?

(**A**) 50 (**B**) 38 (**C**) 40 (**D**) 56 (**E**) 45

B8 Which three of the five jigsaw pieces shown can be joined together to form a square?



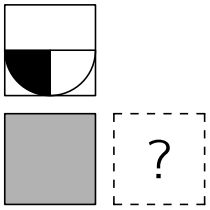
(**A**) 1, 2, 3 (**B**) 2, 3, 4 (**C**) 1, 2, 5
(**D**) 2, 4, 5 (**E**) 3, 4, 5

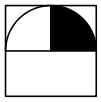
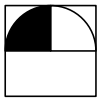
5 point problems

C1 Jennifer wants to make a necklace with 20 pearls in 4 colours. She uses 3 blue pearls and 9 silver pearls. Jennifer wants to use at least one red pearl and at least one white pearl. How many possibilities does Jennifer have for the number of red pearls?

(**A**) 4 (**B**) 5 (**C**) 6 (**D**) 7 (**E**) 8

C2 Sibel turns a card over about its lower edge and then about its right-hand edge, as indicated on the right. What does she see now?



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

C3 Rachel adds 3 numbers and obtains 777. One of the numbers in the addition is 201. What result would Rachel get, if she replaced the number 201 with the number 102 ?

(**A**) 678 (**B**) 878 (**C**) 676 (**D**) 876 (**E**) 666

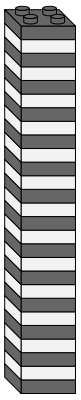
C4 In the zoo Felix counts the legs and the trunks of all elephants. He finds out that there are 18 legs more than trunks. How many elephants are there in the zoo?

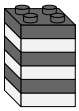
(**A**) 4 (**B**) 5 (**C**) 6 (**D**) 8 (**E**) 9

C5 Frida's two brothers are twins and 6 years younger than her. The sum of the ages of all three siblings is one of the following numbers. Which one?

(**A**) 29 (**B**) 32 (**C**) 23 (**D**) 35 (**E**) 27

C6 Sofie has made a tower of 27 blocks. She breaks the tower into two towers such that one of them is twice the height of the other. Then she takes one of the new towers and breaks it the same way. She continues in this way once more. Which of the following towers will Sofie not be able to get?

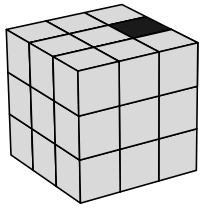


(**A**)  (**B**)  (**C**)  (**D**)  (**E**) 

C7 The sum of two natural numbers is 170. One of the numbers ends with 5, and if we delete this digit, then we get the second number. What is the difference of these two numbers?

(**A**) 110 (**B**) 120 (**C**) 130 (**D**) 140 (**E**) 150

C8 The cube shown on the right consists of 27 small cubes. Exactly one of them is black. The 4 grey cubes that touch the black cube with a face are replaced with black cubes. Then again, all grey cubes that touch a black cube with a face are replaced with black cubes. How many black cubes are there now in total?



(**A**) 8 (**B**) 9 (**C**) 11 (**D**) 12 (**E**) 15