Year 3 and 4 (ENGLISH VERSION)

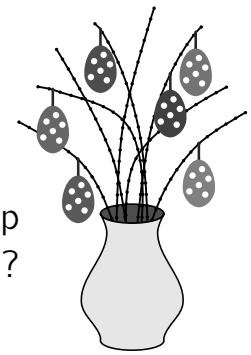
Thursday, 16th March 2017 Time allowed: 75 minutes

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 and other electronic devices are not allowed.

3 point problems

A1 $16 - 3 + 20 - 17 =$

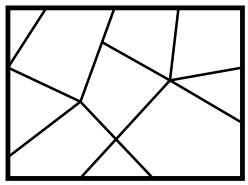
(**A**) 16 (**B**) 3 (**C**) 2 (**D**) 0 (**E**) 17



A2 Max hangs Easter eggs up on the twigs in his vase. He already hung up half of his Easter eggs. How many Easter eggs does Max have in total?

(**A**) 10 (**B**) 12 (**C**) 13 (**D**) 14 (**E**) 16

A3 A mirror is broken into pieces, as shown on the right. How many pieces have exactly four sides?

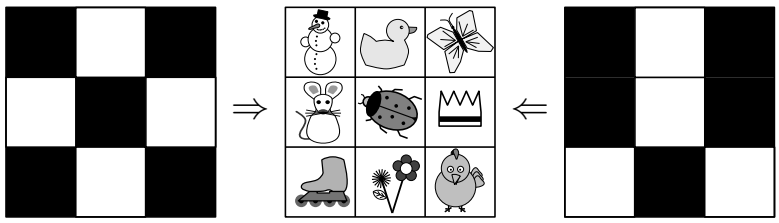


(**A**) 3 (**B**) 4 (**C**) 5 (**D**) 6 (**E**) 7

A4 Five children calculate together. Finn calculates $10 + 6$. Then Nina adds 7. Then Adam subtracts 6. Then Michel adds 5. Then Lia subtracts 10. What is Lia's result?

(**A**) 12 (**B**) 13 (**C**) 14 (**D**) 15 (**E**) 16

A5 Fritz has two transparent sheets with some black squares and slides them on top of the 9 pictures, as shown. Which picture can then still be seen?

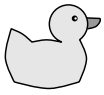


(**A**) 

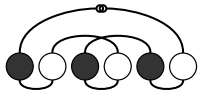
(**B**) 

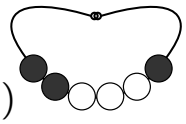
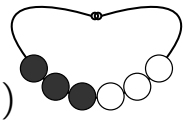
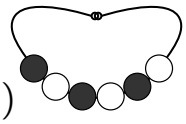
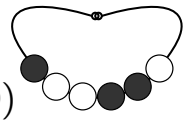
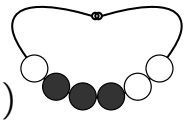
(**C**) 

(**D**) 

(**E**) 

A6 Isabell put her necklace on the table, as shown on the right.
Which of the following pictures also shows Isabell's necklace?



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

A7 Balloons are sold in packets of 5, 10 and 25 balloons. Marius buys exactly 70 balloons.
What is the *smallest* number of packets that he could buy?

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

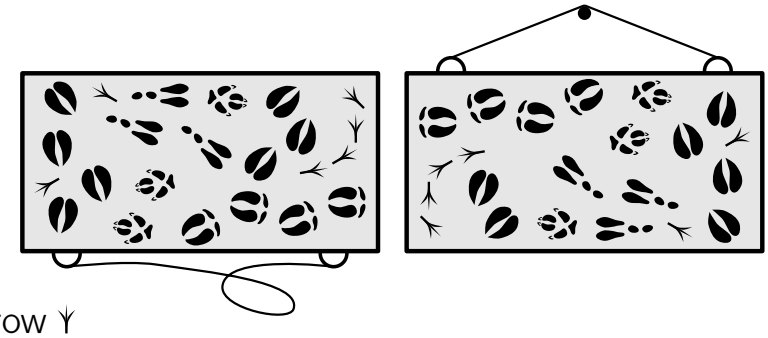
A8 In the table on the right, the white cells contain the sums of the numbers in the grey cells. Which number is below the 17?

+	11	7	2
6	17	13	8
		16	11

(**A**) 16 (**B**) 19 (**C**) 20 (**D**) 22 (**E**) 23

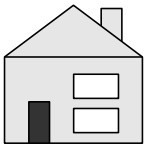
4 point problems

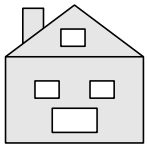
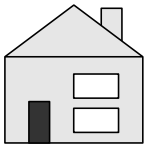
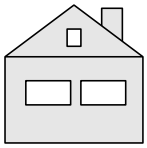
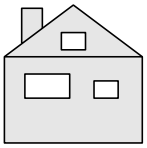
B1 Pauline pinned some pictures of footprints on a magnetic board. Which picture fell down when she hung the board up on the wall?



(**A**) wild boar (**B**) crow
(**C**) fox (**D**) dear (**E**) hare

B2 Carl craftet a house. The picture on the right shows the front of Carl's house. On the back of Carl's house there are three windows and no door.
Which of the following pictures shows Carl's house from the back?

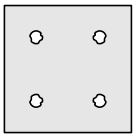


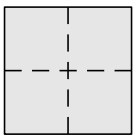
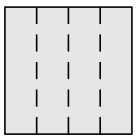
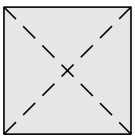
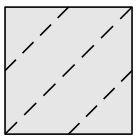
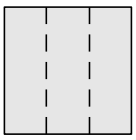
(**A**)  (**B**)  (**C**)  (**D**)  (**E**) 

B3 On Monday, 13 children signed up for the running team competition at the annual sports day. On Tuesday, another 19 children signed up. At least how many more children need to sign up so that teams with 6 children each can be formed?

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

B4 Marlon folded a piece of paper and punched one hole in the paper. Now, the unfolded paper has the 4 holes shown on the right. How could Marlon have folded the paper?



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

B5 On the fruit market, Zada bought 8 oranges and one melon. Silas bought 3 melons. They both paid the same. How many oranges have the same price as one melon?

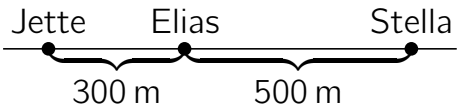
(**A**) 2 (**B**) 3 (**C**) 4 (**D**) 5 (**E**) 6

B6 In the number square on the right there are 9 squares that consist of exactly 4 cells. For each of these 9 squares, Mary finds the sum of the 4 numbers. For example, for the bottom left square she obtains $4 + 1 + 1 + 2 = 8$. Which of the 9 sums is the largest?

2	1	3	4
1	6	2	2
4	1	1	3
1	2	4	5

(**A**) 8 (**B**) 10 (**C**) 11 (**D**) 12 (**E**) 13

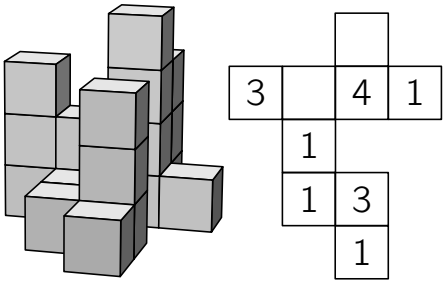
B7 Jette, Elias and Stella live in the same street.



They want to meet in their street, such that the sum of the distances that the three children have to walk is as small as possible. What is this smallest possible sum?

(**A**) 400 m (**B**) 600 m (**C**) 800 m (**D**) 900 m (**E**) 1000 m

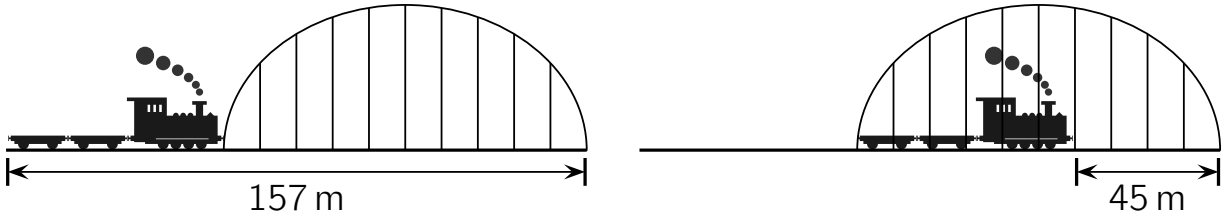
B8 The picture on the right shows a group of building blocks and a plan of the same group which shows the positions and the heights of all block towers. What is the sum of the two missing numbers?



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

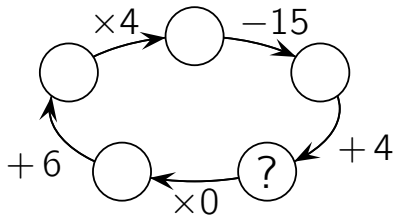
5 point problems

C1 The two pictures show the same train and the same bridge. How long is the train?



(**A**) 45 m (**B**) 46 m (**C**) 52 m (**D**) 56 m (**E**) 57 m

C2 Which number belongs in the circle with the question mark to make a correct calculation?

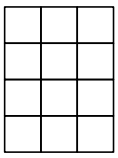


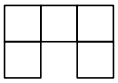
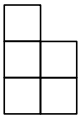
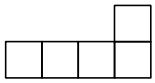
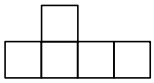
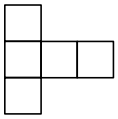
(**A**) 0 (**B**) 10 (**C**) 12 (**D**) 13 (**E**) 15

C3 In the summer camp, Til and his three friends read 12 books in total. Each of them read at least one book, and no two of them read the same number of books. Til read exactly 4 books. How many books were read by the child who read the *largest* number of books?

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

C4 From the piece of squared paper shown, Luca wants to cut out two equal pieces. For which of the following shapes is this *not* possible?



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

C5 A small zoo has a giraffe, an elephant, a lion and a turtle. Susan wants to plan a tour where she sees exactly 2 different animals. She does not want to start with the lion. How many different tours can she plan?

(**A**) 5 (**B**) 7 (**C**) 8 (**D**) 9 (**E**) 12

C6 Lore cut out a large square from squared paper and painted one small square red. The red square is in the 4th row from the bottom, in the 5th row from the top, in the 6th column from the left and in the

(**A**) 2nd column from the right.
(**B**) 3rd column from the right.
(**C**) 4th column from the right.
(**D**) 5th column from the right.
(**E**) 6th column from the right.

C7 Oskar wrote the numbers 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10 on ten cards. He chooses two cards, writes the sum of the two numbers on a piece of paper, and puts the two cards aside. After Oskar has done that five times, there are five numbers on the piece of paper. Four numbers are 12, 7, 6 and 14. What is the fifth number?

(**A**) 16 (**B**) 11 (**C**) 17 (**D**) 9 (**E**) 13

C8 For a party Luna baked muffins: 10 apple muffins, 18 blueberry muffins, 12 chocolate muffins and 9 nut muffins. Now, she prepares plates with 3 different muffins each. What is the *smallest* number of muffins that can remain?

(**A**) 1 (**B**) 3 (**C**) 4 (**D**) 7 (**E**) 8