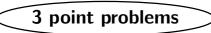# Year 3 and 4 (ENGLISH VERSION)
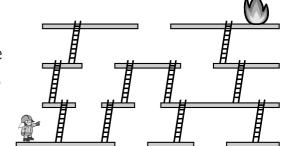
Thursday, 18th April 2024   Time allowed: 75 minutes

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 The firefighter is in a hurry. She has to put out the fire and is looking for the quickest way to get there. How many ladders does she have to use?
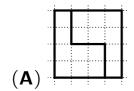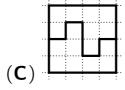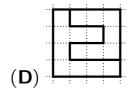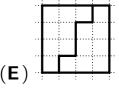
(**A**) 5   (**B**) 6   (**C**) 7   (**D**) 8   (**E**) 9

A2 Which square is cut into two <u>different</u> shapes?

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

A3 On the piece of squared paper, Erik colours the column on the far left and 2 rows in red. How many boxes will be red in total?

(**A**) 14   (**B**) 16   (**C**) 19   (**D**) 20   (**E**) 22

A4 Juna draws a rectangle onto a piece of paper, then she folds it and sees: What could the folded paper look like <u>from behind</u>?

front view

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

A5 In a game, 9 children stand in a circle. They throw a ball in turn, always to the child standing 2 places to the left. The child at point 1 starts. Each child throws the ball exactly once. Ida throws the ball last. At which point stands Ida?

(**A**) 2   (**B**) 4   (**C**) 6   (**D**) 7   (**E**) 8

A6 Vincent has stacked several cubes of the same size. Now he wants to add another cube on top. What could his construction then look like?

(**A**)   (**B**)   (**C**)   (**D**)   (**E**)
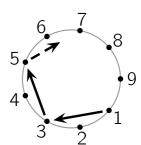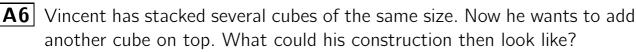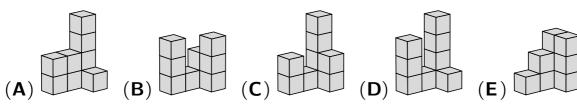
A7 On the blackboard, 3 consecutive 3-digit numbers were written in sequence. Lotta wiped off 4 digits for fun. Which digits did Lotta wipe off from left to right?

$4\blacksquare 7, \blacksquare 98, \blacksquare 9\blacksquare$

(**A**) 8 4 5 9   (**B**) 9 4 4 9   (**C**) 8 3 2 7   (**D**) 7 4 4 8   (**E**) 9 5 6 9

A8 There are 7 dustbins in front of the house. They are yellow, black or blue, a different number of each colour. There are the most yellow bins.
How many yellow bins are there?

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

4 point problems

B1 The cook in our school kitchen is a big kangaroo fan. He even put up a kangaroo poster this year.
How many tiles are behind the poster?

(**A**) 32   (**B**) 35   (**C**) 38   (**D**) 44   (**E**) 49

B2 Project days are coming up. Five friends have already ticked which projects they like. They have all been assigned to projects that they like. But everyone has been assigned to a different project.
Which project has Lena been assigned to?

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

Project	1	2	3	4	5
Kim			×		
Lena	×	×	×	×	×
Mika			×	×	×
Noel			×		×
Olga	×			×	

B3 Jasmin removes the 2nd disc from the bottom of the tower shown on the right. She then removes the 3rd disc from the bottom of the resulting tower. She then removes the 4th disc from the bottom of the resulting tower. Which tower does Jasmin end up with?
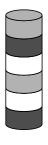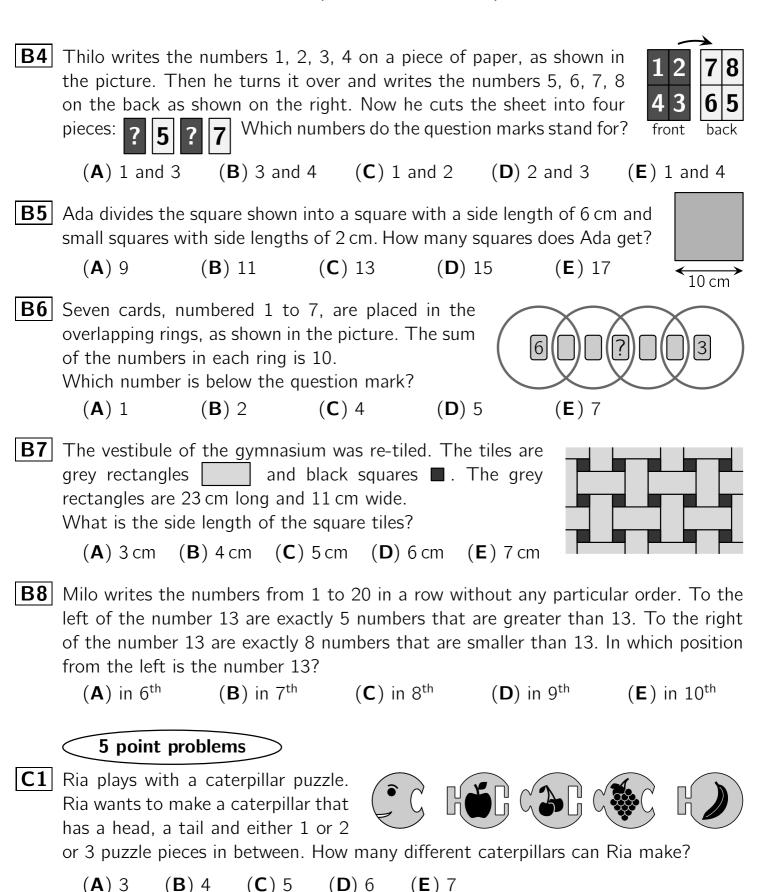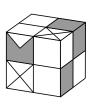
(**A**)   (**B**)   (**C**)   (**D**)   (**E**)

B4 Thilo writes the numbers 1, 2, 3, 4 on a piece of paper, as shown in the picture. Then he turns it over and writes the numbers 5, 6, 7, 8 on the back as shown on the right. Now he cuts the sheet into four pieces: **? 5 ? 7** Which numbers do the question marks stand for?

front   back

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

B5 Ada divides the square shown into a square with a side length of 6 cm and small squares with side lengths of 2 cm. How many squares does Ada get?

(**A**) 9   (**B**) 11   (**C**) 13   (**D**) 15   (**E**) 17

10 cm

B6 Seven cards, numbered 1 to 7, are placed in the overlapping rings, as shown in the picture. The sum of the numbers in each ring is 10. Which number is below the question mark?

(**A**) 1   (**B**) 2   (**C**) 4   (**D**) 5   (**E**) 7

B7 The vestibule of the gymnasium was re-tiled. The tiles are grey rectangles and black squares ■. The grey rectangles are 23 cm long and 11 cm wide. What is the side length of the square tiles?

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

B8 Milo writes the numbers from 1 to 20 in a row without any particular order. To the left of the number 13 are exactly 5 numbers that are greater than 13. To the right of the number 13 are exactly 8 numbers that are smaller than 13. In which position from the left is the number 13?

(**A**) in 6th (**B**) in 7th (**C**) in 8th (**D**) in 9th (**E**) in 10th

5 point problems

C1 Ria plays with a caterpillar puzzle. Ria wants to make a caterpillar that has a head, a tail and either 1 or 2 or 3 puzzle pieces in between. How many different caterpillars can Ria make?

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

C2 Three curious flies have landed on my correctly solved homework. What is the sum of the three hidden digits?

$$2\,\blacksquare\,3 + 1\,\blacksquare\,4 + 41\,\blacksquare = 782$$

(**A**) 8   (**B**) 9   (**C**) 10   (**D**) 11   (**E**) 12

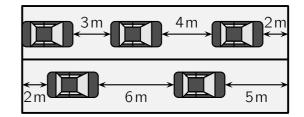**C3** The cube shown should be built with white building blocks ⬦ and grey building blocks ⬥ . The number of white blocks should be as small as possible. How many white blocks are needed?

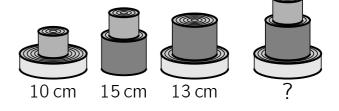(**A**) 14   (**B**) 15   (**C**) 16   (**D**) 17   (**E**) 18

C4 There are 5 cars of the same size on a car ferry. The few cars are spaced far apart. How long is each car?

(**A**) 3 m   (**B**) 4 m   (**C**) 5 m   (**D**) 6 m   (**E**) 7 m
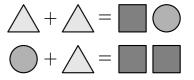
C5 Thao has built different towers with 3 cans. He measured how high the first 3 towers are. How high is the 4$^\text{th}$ tower?

(**A**) 17 cm   (**B**) 18 cm   (**C**) 19 cm
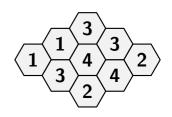(**D**) 20 cm   (**E**) 21 cm

10 cm   15 cm   13 cm   ?

C6 In the calculations on the right Filip replaces the same symbols with the same digits and different symbols with different digits. What is the value of △ × ◯ × ■ ?

$$\triangle + \triangle = \blacksquare \, \bigcirc$$
$$\bigcirc + \triangle = \blacksquare \, \blacksquare$$

(**A**) 10   (**B**) 15   (**C**) 18   (**D**) 28   (**E**) 30

C7 Some cells in the beehive contain honey. The number in each cell indicates how many of its neighbouring cells contain honey. How many cells in this beehive contain honey?

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

C8 Camila, Meret and Pius baked some cookies for the school party. They want to eat some of the cookies themselves. Those lie in a row on the table:

The children take cookies from the table exactly once in some order. One child takes all the hearts that are still on the table. One child takes all the light-coloured cookies still on the table. And one child takes all the big cookies that are still on the table. At the end, one of the children has 3 cookies, one has 6 cookies and one has 7 cookies. Which picture shows the cookies that one of the children has taken?

(**A**) ⭐⭐♡   (**B**) ♡♡🖤🖤🖤🖤   (**C**) ⭐⭐♡⭐⭐

(**D**) 🖤🖤🖤🖤♡♡   (**E**) ⭐⭐⭐