

Year 3 and 4 (ENGLISH VERSION)

Thursday, 16th March 2023

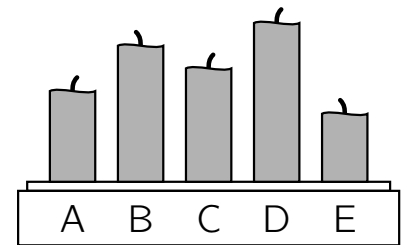
Time allowed: 75 minutes

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 Jonathan lit five identical candles at the same time. Then he blew them out one by one. Which candle did Jonathan blow out first?

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



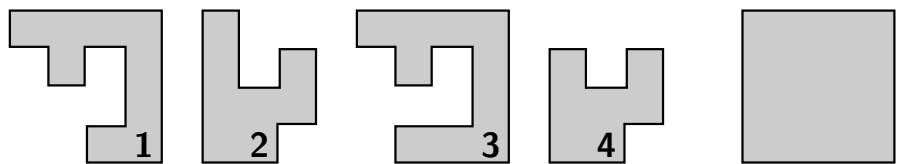
A2 Paula brings back 66 cents from her shopping tour and puts them on the table. The three coins with the question marks have the same value. What is this value?

- (A) 1 cent (B) 2 cents (C) 5 cents (D) 10 cents (E) 20 cents



A3 Which two pieces can be put together to make the square?

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

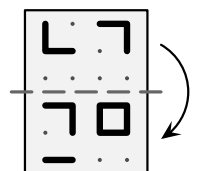


A4 In the evening, all 19 goats return to the farm. There are two stables. The 1st goat goes into the big stable, the 2nd into the small one, the 3rd into the big one, the 4th into the small one and so on. How many goats are in the big stable at the end?

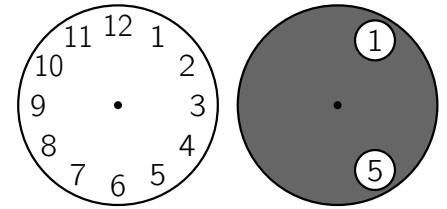
- (A) 7 (B) 8 (C) 10 (D) 11 (E) 13

A5 Fatima has a transparent piece of foil, as shown in the picture on the right. She folds it down along the dashed line. What can be seen now?

- (A) 29 (B) 36 (C) 58 (D) 25 (E) 69



A6 The dark disc with the two holes fits exactly on the clock face. Now the dark disc is rotated around the centre. Which two numbers can be visible at the same time?

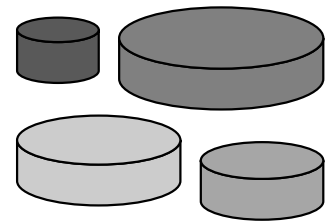


- (A) 4 and 9 (B) 5 and 9 (C) 4 and 10 (D) 5 and 10 (E) 6 and 9

A7 The five children in our house are called Sarah, Vito, Ella, Antonio and Henry. They are 4, 5, 6, 7 and 8 years old. Vito is the youngest. Ella is 2 years older than Antonio and 1 year younger than Henry. How old is Sarah?

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

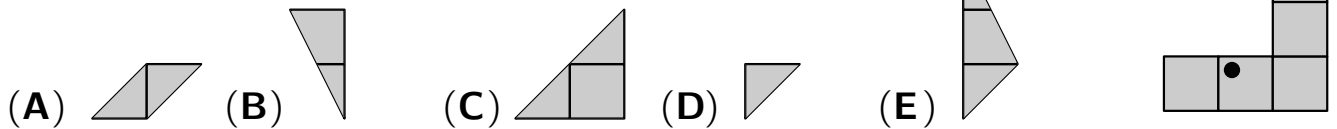
A8 Leon wants to build a tower with 3 of the discs shown. The 3 discs should get smaller and smaller from the bottom to the top. How many different towers can Leon build?



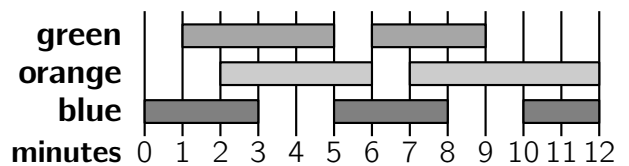
- (A) 2 (B) 4 (C) 5 (D) 6 (E) 8

4 point problems

B1 The figure on the right gets covered exactly by the five pieces shown. Which piece covers the black dot?

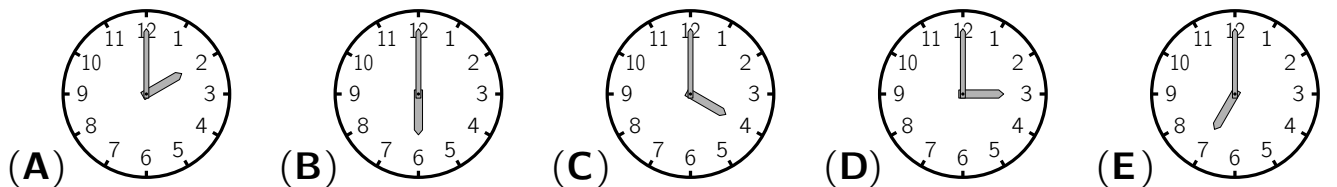



B2 Year 3 performs a play in the auditorium. Finally the new coloured spotlights are used! The plan shows which spotlights shine when. How many minutes in total do exactly 2 of the spotlights shine at the same time?

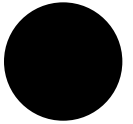




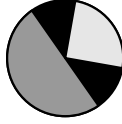
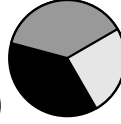
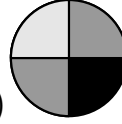
- (A) 5 minutes (B) 6 minutes (C) 8 minutes (D) 9 minutes (E) 10 minutes

B3 There are five clocks in the old station. One is correct, one is one hour fast and one is one hour slow. Two clocks have stopped. Which clock shows the correct time?

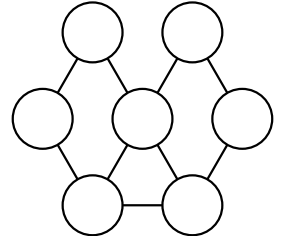


B4 Frieda glues the two pieces of paper  onto the black circle shown on the right. What can Frieda not obtain?



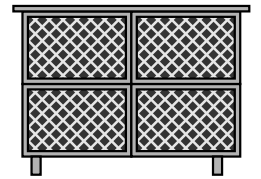
- (A)  (B)  (C)  (D)  (E) 

B5 Bela wants to colour the circles in the figure on the right. Circles that are directly connected should have different colours. What is the smallest number of colours Bela needs for this?



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

B6 My grandpa has built a new rabbit hutch with 4 boxes. In the left boxes there are a total of 7 rabbits, in the right boxes there are a total of 5 and in the upper boxes there are a total of 8. How many rabbits are there in total in the lower boxes?

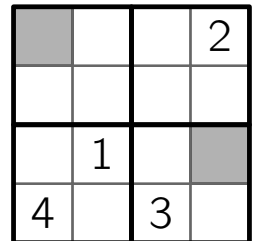


- (A) 4 (B) 5 (C) 7 (D) 9 (E) 11

B7 A car ferry transports 35 people and their 9 cars. Each car has either 3 or 4 people in it. How many cars with 4 people does the ferry transport?

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

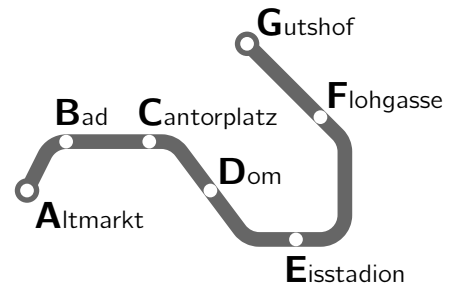
B8 Anna wants to finish the Sudoku. Each of the numbers 1, 2, 3, 4 should appear exactly once in each row, in each column and in each of the four squares with a thick black border. What is the sum of the two numbers that Anna has to write in the grey squares?



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

5 point problems

C1 Inga is an underground driver on the U23 line. She commutes back and forth between Altmarkt and Gutshof. Inga starts at Cantorplatz. Her first stop is Dom. Inga takes a break at the 65th stop. Where is that?



- (A) Altmarkt (B) Bad (C) Eisstadion (D) Flohgassee (E) Gutshof

C2 At breakfast Lia realises: "In the morning, I am never first in the bathroom, Dad is never second and Mum is never third." In how many different orders can the three of them use the bathroom in the morning?

- (A) one (B) two (C) four (D) five (E) eight

C3 Bruno and Ludwig each blew up 9 balloons for the school festival. In total, there are 10 red and 8 blue balloons. Bruno blew up twice as many red balloons as blue balloons. How many red balloons did Ludwig blow up?

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

C4 In an old castle there are 8 paintings hanging on the wall:

1	2	3	4	5	6	7	8
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 On 2 paintings there are persons. On the 6 other paintings only animals can be seen. In any 3 paintings hanging next to each other, there is always one painting with a person. Which of the following paintings has a person on it?

- (A)

1

 (B)

3

 (C)

4

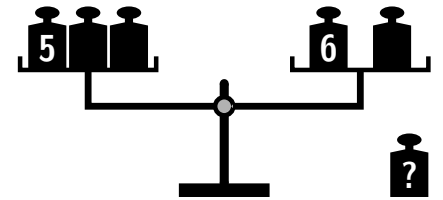
 (D)

7

 (E)

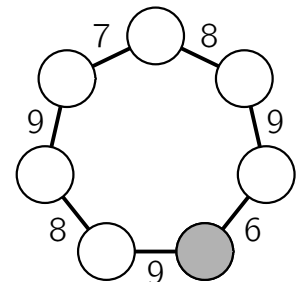
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C5 Linus plays with an old beam scales like the one in the picture. He has 6 weights. These weigh 1 kg, 2 kg, 3 kg, 4 kg, 5 kg and 6 kg. He places 5 of the weights on the scales, as shown. The scales are now in equilibrium. Which weight did Linus not put on the scales?



- (A) 1 kg (B) 2 kg (C) 3 kg (D) 4 kg (E) There is more than one possibility.

C6 The numbers from 1 to 7 need to be written in the 7 circles. Each number between two neighbouring circles is the sum of the two numbers in these two circles. Which number needs to be written in the grey circle?



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

C7 On a worn 60 cm ruler, only a few marks remain, but any of the lengths 10 cm, 20 cm, 30 cm, 40 cm, 50 cm and 60 cm can still be measured with just one application of the ruler. Which ruler could this be?

- (A)

0	10	30	60
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 (B)

0	20	40	60
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 (C)

0	30	50	60
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 (D)

0	10	20	60
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 (E)

0	10	40	60
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C8 Clara has hatched 5 boxes in a 3×4 rectangle. Her brother Simon looks at it briefly and now tries to copy it. He shows Clara the following 5 attempts. In one attempt he got everything right. In each of the others attempts, he hatched 4 boxes correctly and one box in the wrong place. Which attempt shows Clara's rectangle?

- (A)

 (B)

 (C)

 (D)

 (E)
