

Year 3 and 4 (ENGLISH VERSION)

Thursday, 16th March 2023

Time allowed: 45 minutes

- For each question exactly one of the 5 options is correct.
- Each participant is given 18 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 90, the minimum is 0.
- Calculators and other electronic devices are not allowed.

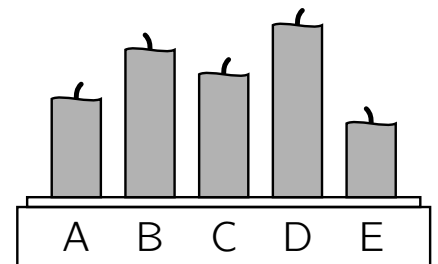
3 point problems

1. Jonathan lit five identical candles at the same time.

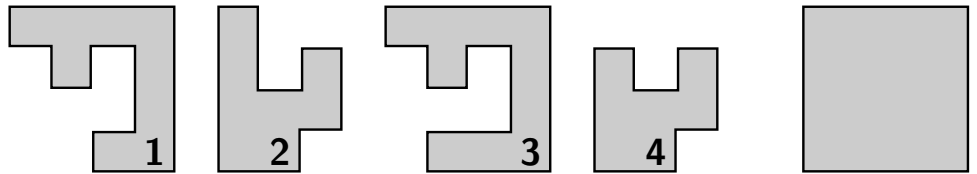
Then he blew them out one by one.

Which candle did Jonathan blow out first?

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



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

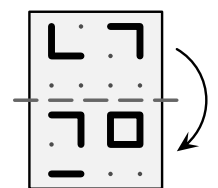


- (A) 1 and 2 (B) 2 and 4 (C) 1 and 3 (D) 2 and 3 (E) 1 and 4

3. 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 in the end?

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

4. 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?

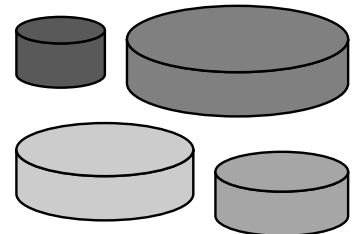


- (A) **29** (B) **36** (C) **58** (D) **25** (E) **69**

5. The five children in our house are called Sarah, Vito, Lena, Antonio and Henry. They are 4, 5, 6, 7 and 8 years old. Vito is the youngest. Lena 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

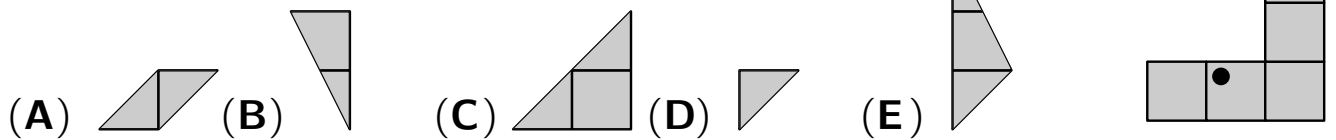
6. Leon wants to build a tower with 3 of the discs shown. The 3 discs should get smaller and smaller from the bottom to the top. How many different towers can Leon build?



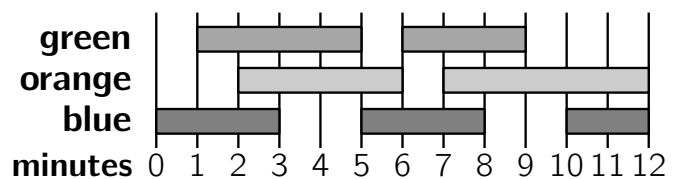
- (A) 2 (B) 4 (C) 5 (D) 6 (E) 8

4 point problems

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

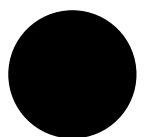


8. Year 3 performs a play in the auditorium. Finally the new coloured spotlights are used! The plan shows which spotlights shine when. How many minutes in total do exactly 2 of the spotlights shine at the same time?



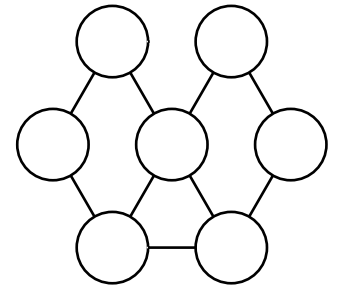
- (A) 5 minutes (B) 6 minutes (C) 8 minutes (D) 9 minutes (E) 10 minutes

9. 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)

- 10.** Bela wants to colour the circles in the figure on the right. Circles that are directly connected should have different colours.

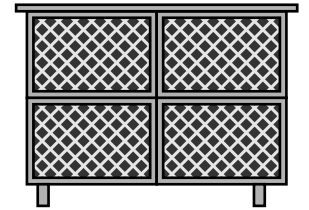


What is the smallest number of colours Bela needs for this?

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

(E) 6

- 11.** 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

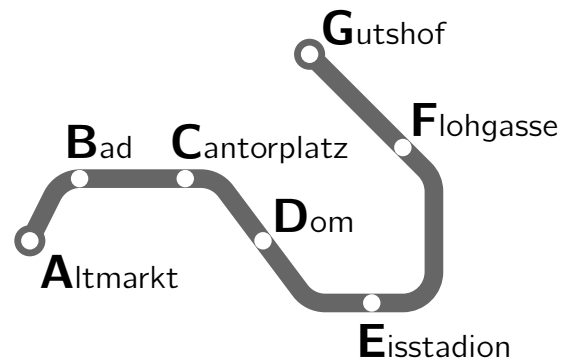
- 12.** A car ferry transports 35 people and their 9 cars. Each car has either 3 or 4 people in it. How many cars with 4 people does the ferry transport?

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

5 point problems

- 13.** 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?

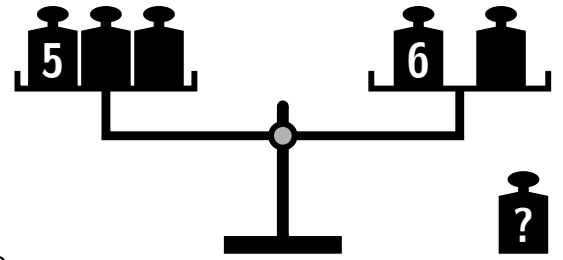


- (A) Altmarkt (B) Bad (C) Eisstadion (D) Flohgasse (E) Gutshof

- 14.** 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?

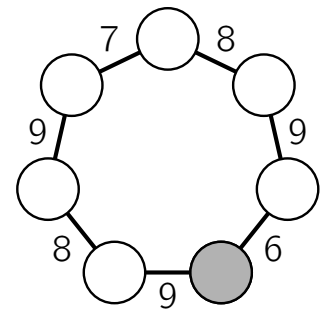
- (A) 3 (B) 4 (C) 5 (D) 6 (E) 7

15. 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?



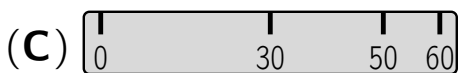
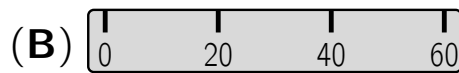
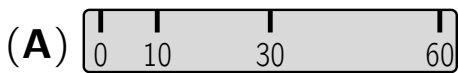
- (A) 1 kg (B) 2 kg (C) 3 kg (D) 4 kg (E) There is more than one possibility.

16. 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

17. 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?



18. 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?

