

## Year 3 and 4 (ENGLISH VERSION)

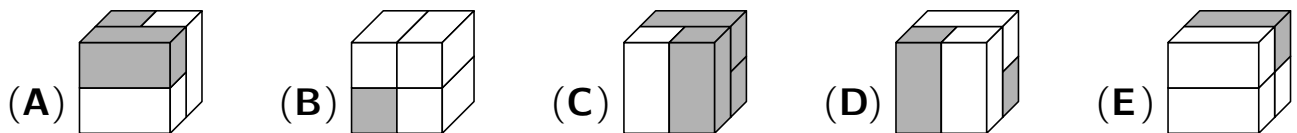
Thursday, 18th March 2021

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** Out of the 4 building blocks , which of the 5 cubes can be built?

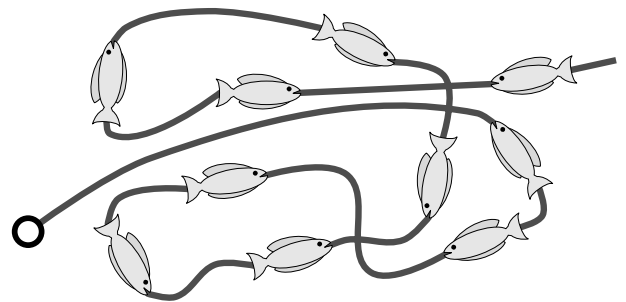


**A2** Which calculation with the digits of the year 2021 has the largest result?

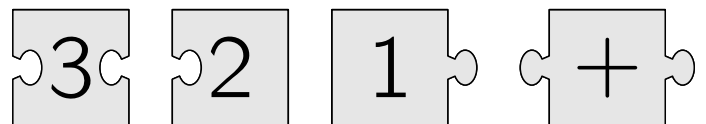
- (A)  $2 - 0 + 2 + 1$       (B)  $2 + 0 - 2 + 1$       (C)  $2 - 0 - 2 + 1$   
 (D)  $2 + 0 + 2 - 1$       (E)  $2 - 0 + 2 - 1$

**A3** How many fish point with their heads towards the ring when the line is straightened?

- (A) 3    (B) 5    (C) 6    (D) 7    (E) 8



**A4** When put together correctly, the 4 pieces of the puzzle form a rectangle with a calculation. What is the result of this calculation?

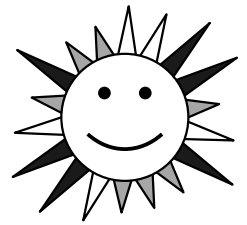


- (A) 6      (B) 15      (C) 18      (D) 24      (E) 33

**A5** The bells of the church next to the school chime on the hour as often as the time indicates. How many chimes are there between 7:30 am and 10:30 am?

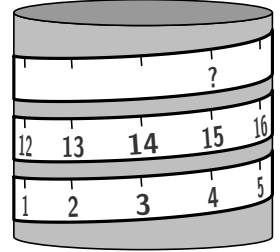
- (A) 16      (B) 19      (C) 20      (D) 24      (E) 27

**A6** Ferdinand has painted the sun in the picture on the right. Which picture shows a section of Ferdinand's sun?



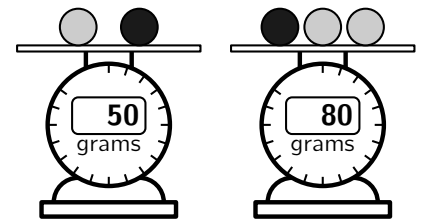
**A7** A measuring tape is wrapped evenly around a round can. What number is represented by the question mark?

- (A) 23      (B) 26      (C) 29      (D) 30      (E) 32



**A8** Lea has 2 light marbles and one dark marble. The 2 light marbles have the same weight. Lea plays with the kitchen scales, see picture. What is the weight of the dark marble?

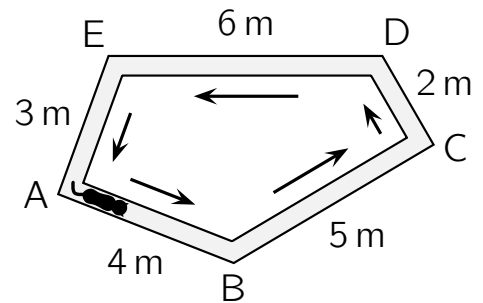
- (A) 15 grams      (B) 20 grams      (C) 25 grams  
(D) 35 grams      (E) 40 grams



**4 point problems**

**B1** Toni the cat walks on the edge of a 5-sided flowerbed always following the arrows. He starts at corner A and walks a total of 50 metres. Where does Toni finish?

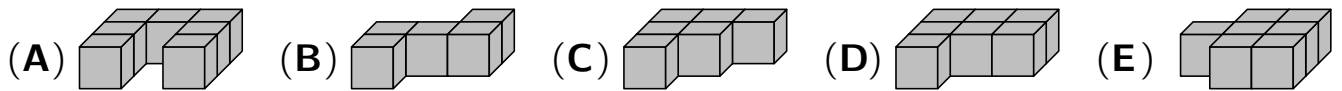
- (A) between A and B      (B) between B and C  
(C) between C and D      (D) between D and E  
(E) between E and A



**B2** Lara puts 19 empty bottles into 2 identical empty crates. She fills the first one fully. The second one has 5 empty spaces. How many bottles fit into one crate?

- (A) 18      (B) 15      (C) 13      (D) 12      (E) 10

**B3** The cuboid on the right is built from a black, a white and a grey block. The black and the white blocks are shown. What does the grey block look like?

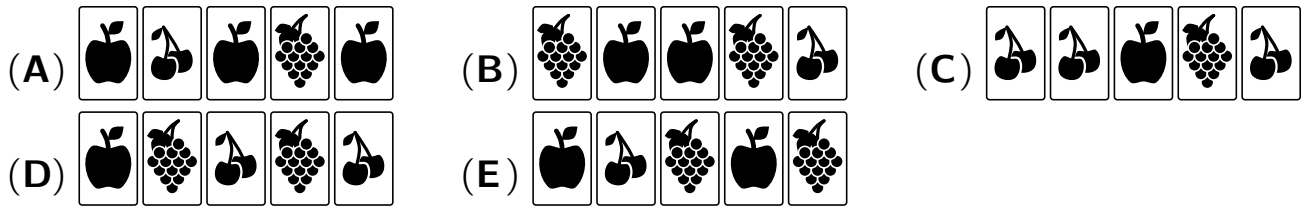


- (A)      (B)      (C)      (D)      (E)

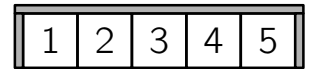
**B4** Lutz chose 3 number cards from  $\boxed{5} \boxed{2} \boxed{8} \boxed{1} \boxed{4} \boxed{7}$  and formed the largest possible number with one odd digit and 2 even digits. What is this number?

- (A) 874      (B) 785      (C) 854      (D) 847      (E) 984

**B5** In 4 of the 5 rows shown, 2 cards can be swapped so that afterwards cards with the same picture lie next to each other. In which row does this not work?

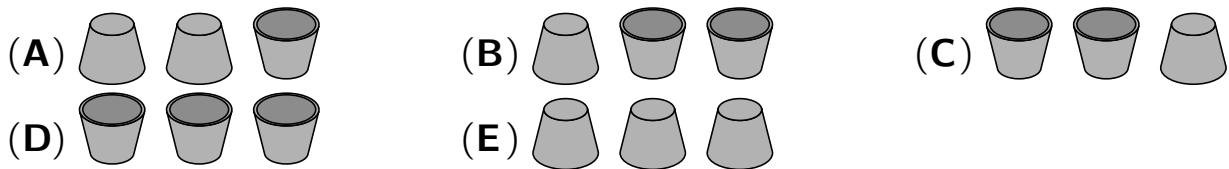
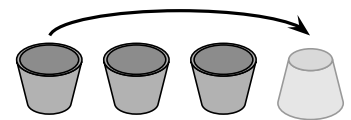


**B6** In a small cinema, 5 friends have a whole row to themselves. Paul is not sitting in seat 5. Anabel has chosen seat 1. Lynn sits directly between Joshua and Selin. Where does Lynn sit?



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

**B7** Three cups are on the table, as shown. Til takes the left-hand one, flips it over, and puts it to the right of the other cups. What do the cups look like after he has done this 10 times?

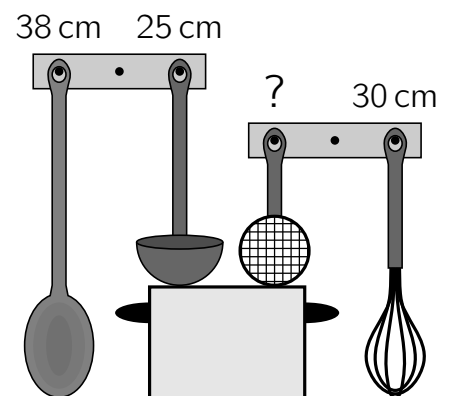


**B8** Steffi bought 3 boxes of 10 muesli bars each. For a long hike, she takes a few bars from the first box. She takes as many bars from the 2nd box as there are left in the 1st box. She takes 2 bars from the 3rd box. How many muesli bars does Steffi leave at home?

- (A) 2    (B) 8    (C) 10    (D) 16    (E) 18

**5 point problems**

**C1** The cooking spoon and the whisk next to the cooker reach exactly to the worktop. The ladle and the sieve reach exactly to the big pot. The cooking spoon is 38 cm long, the whisk 30 cm and the ladle 25 cm. How long is the sieve?

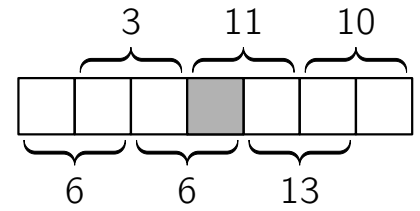


- (A) 17 cm    (B) 16 cm    (C) 15 cm    (D) 14 cm    (E) 13 cm

**C2** In a card game, all cards are distributed equally to all players at the beginning. With 2, 3 or 4 players this is possible, but with 5 players there would be one card left over. How many cards could this card game consist of?

- (A) 21    (B) 24    (C) 26    (D) 36    (E) 48

**C3** Yusuf writes the numbers from 1 to 7 in the 7 boxes. The number above or below each bracket indicates the sum of the two numbers in the two corresponding boxes. Which number belongs in the grey box in the middle?



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

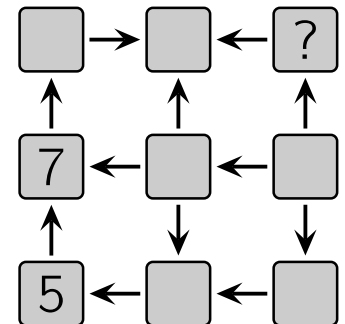
**C4** Dorothea’s father withdraws 80 euros from the bank. The ATM can dispense 10 euro notes, 20 euro notes and 50 euro notes. Dorothea thinks about how the 80 euros can be put together. How many possibilities are there?

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

**C5** Cock Nero regularly checks how many eggs his 5 hens lay. In the last 2 weeks Adele has laid 7 eggs, Bärbel 5, Cordula 6, Dörte 2 and Elvira even 16. Each hen lays only white or only brown eggs. There were 3 times as many white eggs as brown eggs. Which hens lay brown eggs?

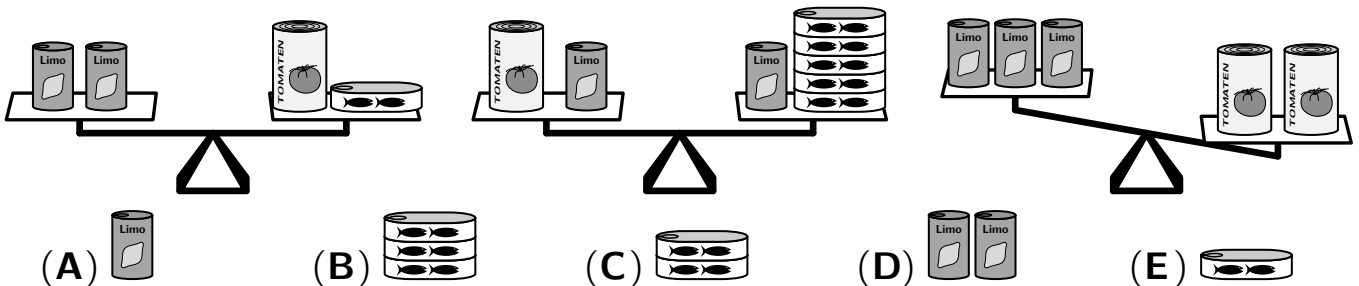
- (A) Adele and Cordula      (B) Bärbel and Cordula      (C) Bärbel and Dörte  
 (D) Cordula and Dörte      (E) Adele and Dörte

**C6** Elena wants to write the numbers from 1 to 9 in the boxes shown. The arrows always point from a smaller number to a larger one. She has already written 5 and 7. Which number should she write in the box with the question mark?



- (A) 2      (B) 3      (C) 4      (D) 6      (E) 8

**C7** Using 3 types of cans, 2 scales were brought into balance. What has to be added to the left side of the third scale so that it is also balanced?



**C8** Mr Bloom sells handmade soap at the market, each piece for the same price. Before leaving for work, he had put change in the cash box. After he had sold 6 bars of soap, there were 56 euros in the cash box. After he had sold a total of 18 bars, there were 104 euros. How much change did Mr Bloom have in the cash box at the beginning?

- (A) 26 euros      (B) 29 euros      (C) 32 euros      (D) 35 euros      (E) 38 euros