Year 3 and 4 (ENGLISH VERSION)

Thursday, 21th March 2019   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 $20 \times 19 + 20 + 19 =$

     (**A**) 178   (**B**) 219   (**C**) 341   (**D**) 419   (**E**) 521

A2   The 5 best children of a sports event are given an award. The higher a child stands, the higher is its rank. Who finished third?
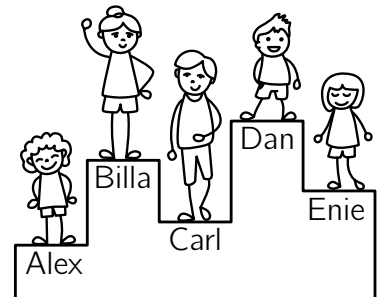
     (**A**) Alex   (**B**) Billa   (**C**) Carl   (**D**) Dan   (**E**) Enie

A3   The Mayan people wrote numbers with dots and bars. A dot stands for 1, and a bar stands for 5. On the right, the Mayan number 8 is shown. What does the Mayan number 12 look like?
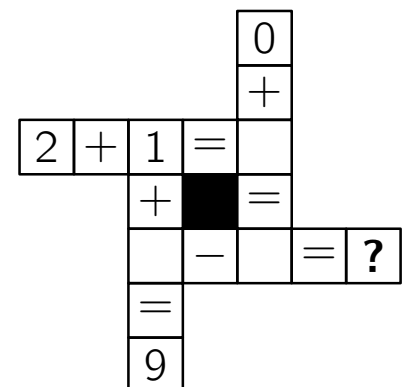
     (**A**)   (**B**)   (**C**)   (**D**)   (**E**)

A4   If the day before yesterday was Tuesday, what would be the day after tomorrow?
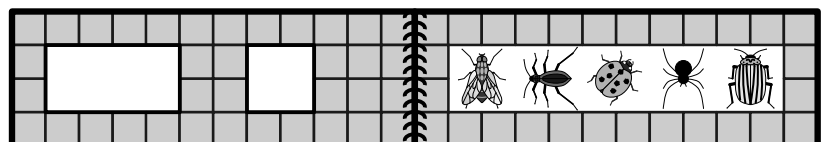
     (**A**) Monday   (**B**) Wednesday   (**C**) Friday
     (**D**) Saturday   (**E**) Sunday

A5   Edgar calculates and fills out the empty boxes correctly. Which number should be written in the box with the question mark?
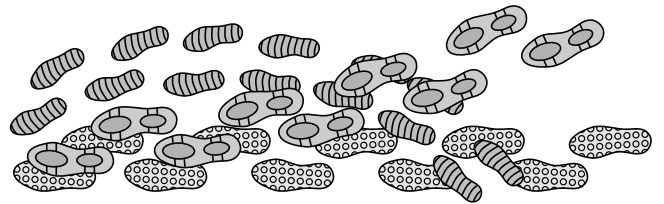
     (**A**) 2   (**B**) 3   (**C**) 5   (**D**) 8   (**E**) 9

A6   Which animals can be seen through the holes in the cover, when the picture book is closed?

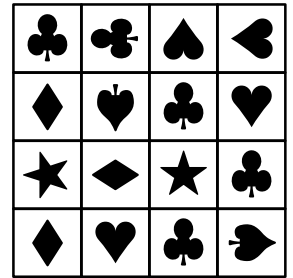   (**A**)   (**B**)   (**C**)   (**D**)   (**E**)

A7 A detective found shoe prints of three thieves in the snow. In which order did the three thieves walk through the snow?
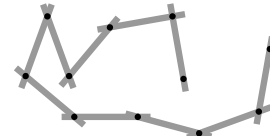
(**A**) (**B**) (**C**) (**D**) (**E**)

A8 Only one of the following pieces can be cut out from the pattern shown on the right. Which one?

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

4 point problems

B1 Pia's yardstick consists of 10 sticks of the same length:
Which of the following figures *cannot* be formed with Pia's yardstick?

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

B2 Five square napkins lie on top of each other, as shown on the right. In what order were the napkins placed?

(**A**) 1, 4, 3, 5, 2   (**B**) 5, 2, 3, 1, 4   (**C**) 3, 2, 5, 1, 4
(**D**) 5, 3, 2, 1, 4   (**E**) 2, 5, 3, 4, 1
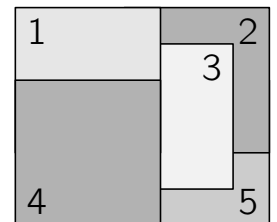
B3 Lars has more than 13 pairs of socks. His little sister counts all his socks and discovers that Lars owns less than 29 socks. How many pairs of socks does Lars have?
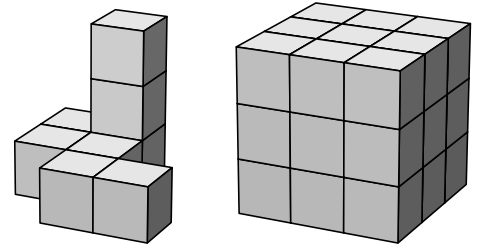
(**A**) 14   (**B**) 15   (**C**) 17   (**D**) 18   (**E**) 19

B4 Luisa created a 7×7 square with ironing beads. Its border consists of 24 beads. Luisa now wants to make a 9×9 square. How many beads does the border of this square consist of?

(**A**) 28   (**B**) 30   (**C**) 32   (**D**) 34   (**E**) 36
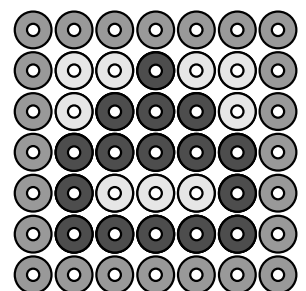
B5 Maximilian builds a large $3 \times 3 \times 3$ cube from small cubes of the same size. He started as shown on the left. How many small cubes are still missing?

(**A**) 19   (**B**) 17   (**C**) 16   (**D**) 14   (**E**) 11

B6 Mrs Schmidt decorated her garden with Easter eggs, red ones and blue ones. There are 4 red Easter eggs more than blue ones. And there are half as many blue Easter eggs as red ones. How many Easter eggs are there in Mrs Schmidt's garden in total?
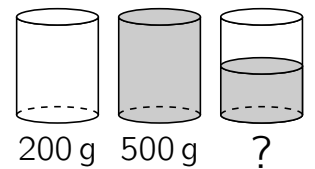
(**A**) 10   (**B**) 12   (**C**) 14   (**D**) 15   (**E**) 18

B7 Manuel has woven the pattern shown on the right from six strips of fabric. His grandmother takes a look at the back side of the pattern. What does she see?
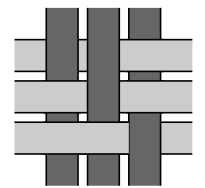
(**A**)   (**B**)   (**C**)   (**D**)   (**E**)

B8 An empty glass weighs 200 g. Full of water it weighs 500 g. How much does the glass weigh if it is half full of water?

(**A**) 250 g   (**B**) 300 g   (**C**) 325 g   (**D**) 350 g   (**E**) 400 g   200 g   500 g   ?

5 point problems

C1 Antje sells Dutch cheese at the market. She cuts a large loaf of cheese in half. Then, she cuts one of the pieces in half three times in a row, as shown on the right. The two smallest pieces weigh 1 kg each. What is the weight of the whole cheese loaf?
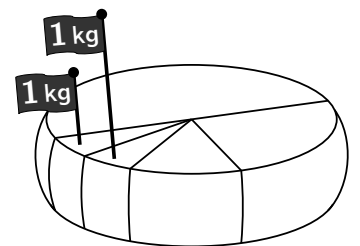
(**A**) 12 kg   (**B**) 16 kg   (**C**) 20 kg   (**D**) 24 kg   (**E**) 26 kg

C2 Tom's mother packed him 7 baby carrots for lunch. Tom actually prefers radishes to carrots. He can always exchange 2 baby carrots for one mini cucumber with Tanja. And with Murat he can always exchange one mini cucumber for 3 radishes. What is the largest number of radishes that Tom can get in this way?

(**A**) 6   (**B**) 8   (**C**) 9   (**D**) 11   (**E**) 12

C3 In the diagram ⬤, ⭐ and ♡ stand for 3 different numbers. The numbers 15, 12 and 16 are the sums of the 3 numbers in the respective row. Which number does ⭐ stand for?

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

C4 Egon, the mole, is working on his burrow. He already made 5 molehills, 2 of them today. Only one of the hills A, C and D was made today. C or E was made today, but not both. A and D were both made yesterday. Which 2 molehills were made today?

(**A**) A and E   (**B**) B and C   (**C**) B and D   (**D**) C and E   (**E**) B and E
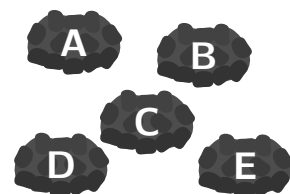
C5 In a game there are 15 beads in total, red ones, blue ones and white ones. 8 beads are not red, and 10 beads are not blue. How many beads are white?

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

C6 At the airport, one side of a corridor is cleaned. For this purpose, caution tape was stretched exactly in the middle of the corridor (see figure). How long is the tape?

(**A**) 71 m   (**B**) 75 m

(**C**) 81 m   (**D**) 83 m   (**E**) 89 m
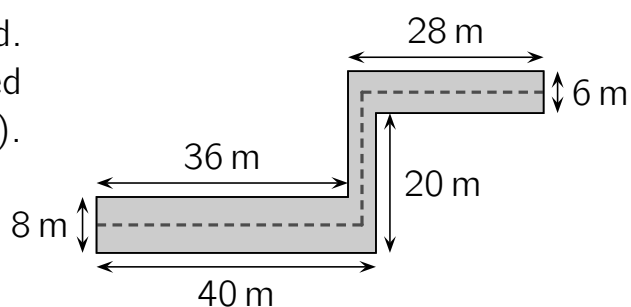
C7 With 3 green, 3 red and 3 blue triangular tiles, Lucy wants to build the big triangle shown. She already placed 4 tiles. No two tiles of the same colour are allowed to touch with a side. What is correct when the large triangle is finished?

(**A**) B and D are both red   (**B**) B is green and D is red

(**C**) B is blue and C is red   (**D**) A is red and C is green   (**E**) B and D are both green
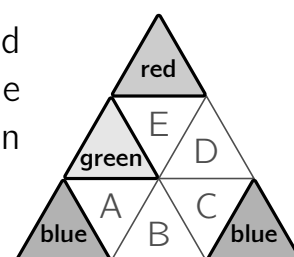
C8 Mara and Elio decorate a pin board with photos from the field trip. First, they pin one photo at a time, as in figure 1. When they realize that there will not be enough pins, they pin all the remaining photos in one row such as shown in figure 2. At the end, 21 photos are pinned with 74 pins. How many photos are pinned as in figure 1?

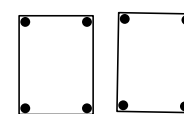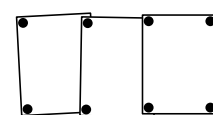(**A**) 11   (**B**) 13   (**C**) 15   (**D**) 17   (**E**) 19