

## Year 3 and 4 (ENGLISH VERSION)

Thursday, 15th March 2018

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.

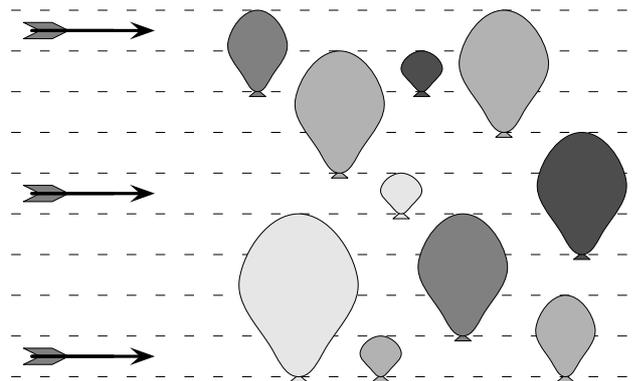
### 3 point problems

**A1** Josefine has a wooden stamp for each of the digits 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9. She prints the date of the Kangaroo contest: **15 03 2018**  
How many of her stamps did Josefine use?

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

**A2** The picture shows 3 flying arrows and 10 balloons. When an arrow hits a balloon, the balloon bursts and the arrow continues flying in the same direction.  
How many balloons remain intact?

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

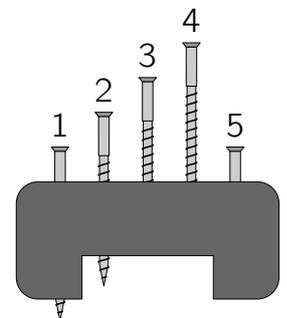


**A3** Levi is 8 years old. His brother is 2 years younger and his sister is 2 years older than Levi. What is the sum of the ages of the 3 siblings?

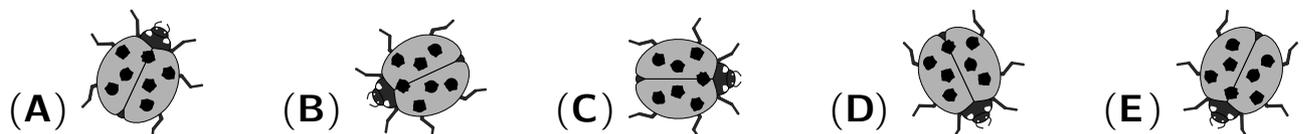
- (A) 16                      (B) 21                      (C) 24                      (D) 27                      (E) 36

**A4** Mathilda drove five screws into a block of wood. Four of these have the same length, and one is shorter. Which one?

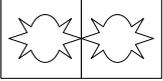
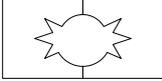
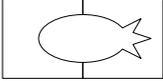
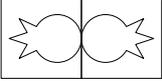
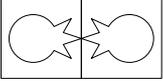
- (A) 1                      (B) 2                      (C) 3                      (D) 4                      (E) 5



**A5** Leon watched a ladybird crawling. He drew the ladybird five times. In one picture, Leon made a mistake. In which one?



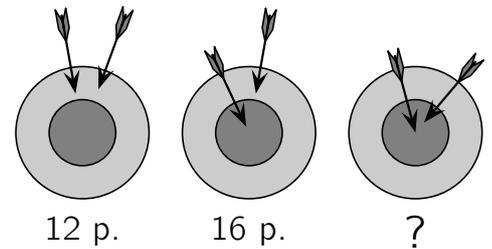
**A6** Lin folds a sheet of paper in half:  Then, Lin cuts out a piece:  What will she see when she unfolds the paper?

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

**A7** On a school trip we stayed in a youth hostel. It has two 2-bed rooms, four 4-bed rooms and two 10-bed rooms. How many people can spend the night there?

- (A) 40 (B) 42 (C) 44 (D) 46 (E) 48

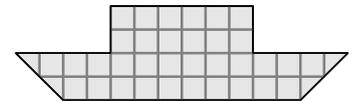
**A8** Diana is shooting arrows at the target shown. On her first attempt she scores 12 points. On her second attempt she scores 16 points. How many points does Diana score on her third attempt?



- (A) 18 (B) 19 (C) 20 (D) 21 (E) 22

### 4 point problems

**B1** Rafael cut out squares  and trapeziums  from squared paper and put some together to form a boat. How many pieces did he use?

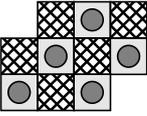
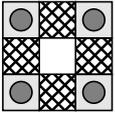
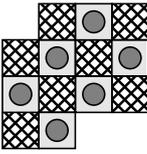
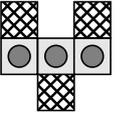
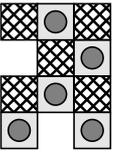


- (A) 5 (B) 6 (C) 7 (D) 8 (E) 9

**B2** In April, Maja's dad will work in Portugal. He wants to learn some Portuguese and decided to study one unit per day from a textbook. Today is Thursday and he is studying unit 12. On what day of the week did he start?

- (A) Monday (B) Tuesday (C) Friday (D) Saturday (E) Sunday

**B3** Joe cut longish tiles from squared paper and painted them all the same way:  He puts some of them together without overlaps to make different shapes. Which of the following shapes is not possible?

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

**B4** Which of the following numbers can be written as a sum of 3 equal numbers and also as a sum of 5 equal numbers?

- (A) 12 (B) 10 (C) 18 (D) 20 (E) 15

**B5** Kiran fills a  $5 \times 5$  grid with the five numbers 1, 2, 3, 4 and 5. Each number must appear exactly once in each row and each column. Which number must Kiran write in the grey cell?

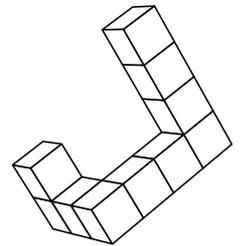
4	5	1	2	3
2	3			1
5	1	2	3	4
3	4		?	2
1	2	3	4	5

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

**B6** In the class room, a red, a checkered and a green backpack were left. Anna, Eva and Paul miss them already. Of the red and the checkered backpack only one belongs to a girl. Similarly, of the red and the green backpack only one belongs to a girl. What does Paul’s backpack look like?

- (A) red      (B) checkered      (C) green  
 (D) checkered or green      (E) Each of the 3 backpacks could be Paul’s.

**B7** Ivona glued 10 cubes together to make the structure shown on the right. Then, she paints the whole structure red. How many of the 10 cubes now have exactly 4 red faces?



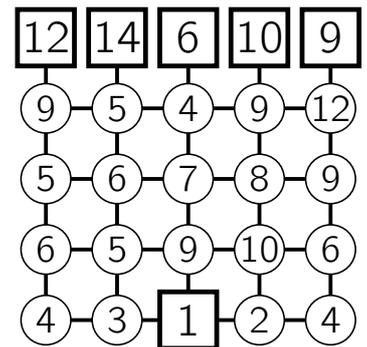
- (A) 6      (B) 7      (C) 8      (D) 9      (E) 10

**B8** The 7 dwarves live beyond the 7 mountains. More than half of the 7 dwarves have a beard: either a full beard or a moustache. There are twice as many full beards as moustaches. How many dwarves have no beard at all?

- (A) none      (B) one      (C) two      (D) three      (E) four

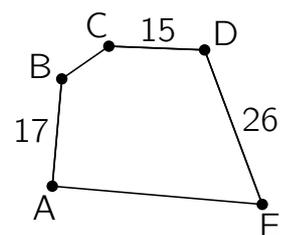
**5 point problems**

**C1** On the schoolyard the older children drew a “number garden” for the year one pupils. They need to find a way from 1 on the bottom to the top row. From each number they must always walk along the lines to a greater number. Which number will they finally reach?



- (A) 12      (B) 14      (C) 6      (D) 10      (E) 9

**C2** Squirrel Theo hasn’t found all his winter stocks. Now, trees start growing from the seeds at the positions A to E. Theo remembers the number of jumps he needed between some of the hiding places, as shown. The number of jumps from A to C via B is the same as the number of jumps between D and E. The whole circuit is 100 jumps long. How many jumps are there between E and A?

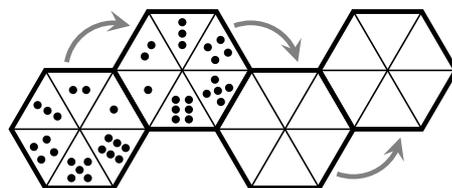


- (A) 42      (B) 33      (C) 26      (D) 23      (E) 17

**C3** How many numbers that are greater than 10 and less than 60 can be formed with two different digits from the list of digits 0, 1, 2, 5, 8?

- (A) 6      (B) 8      (C) 9      (D) 11      (E) 13

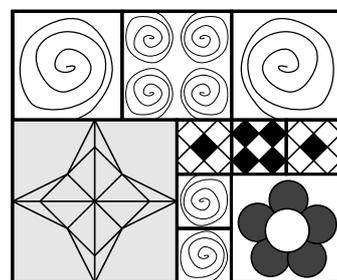
**C4** A painted transparent hexagon is flipped once and then two more times, as indicated on the right. What can be seen after the last flip?



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

**C5** Alva sewed a large rectangle from fabric squares to make a patchwork pillow. The largest square has side length 27 cm. What are the dimensions of the whole rectangle?

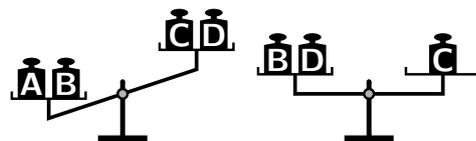
- (A) 35 cm × 53 cm      (B) 45 cm × 63 cm  
(C) 36 cm × 54 cm      (D) 36 cm × 63 cm  
(E) 45 cm × 54 cm



**C6** Franz watched a theatre play. The brave prince had to cut off all the dragon's heads one by one to defeat the dragon. Each time, the prince cut off 3 dragon's heads, one new head immediately grew. The prince defeated the dragon by cutting off 14 heads in total. How many heads did the dragon have at the beginning of the play?

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

**C7** Four weights **A**, **B**, **C** and **D** are of different material. One of them weighs 10 g, one weighs 20 g, one weighs 30 g and one weighs 40 g. The results of two weighings are shown on the right. Which of the four weights is the 20 g weight?



- (A) **A**      (B) **B**      (C) **C**      (D) **D**      (E) It could be **C** or **D**.

**C8** Emily wants to write the numbers from 1 to 7 in the 7 circles in the figure shown. Two consecutive numbers must not be written in two cells that are directly connected with a line. What can Emily write in the grey cell?

- (A) all 7 numbers      (B) only 4      (C) only the even numbers  
(D) only 1 and 7      (E) only the odd numbers

