

MATHEMATICS COMPETITION FOR THE SEVENTH  
GRADERS OF TURKU REGION, 27 FEBRUARY – 3 MARCH, 2017

- The time allotted is 50 minutes.
- The allowed tools are writing and drawing instruments, i.e. pencil, eraser, ruler and compass. Calculators and mathematical tables are not allowed.
- Each problem is worth one point. Wrong answers are not punished.
- The problems are not ordered in increasing difficulty, but the first problems are likely to be easier than the last ones.

1. Compute  $369 - 248$ .

- a) 101    b) 120    c) 121    d) 130    e) 137

2. Compute  $2 \cdot 3 \cdot 4 \cdot 5 \cdot 6 \cdot 7 \cdot 8 \cdot 9 \cdot 0$ .

- a) 1000    b) 0    c) 12345    d) 1760    e) 429

3. Compute  $2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 3 \cdot 3 \cdot 5 \cdot 5 \cdot 5 \cdot 5 \cdot 5$ .

- a) 2350    b) 32925    c) 330510    d) 900000    e) 12000000

4. A big box contains 50 kg of gummy bears when full. Making the box (floor, walls, lid) took  $2 \text{ m}^2$  of cardboard. How much cardboard is required to make a box which has the same dimensions but can contain 400 kg of gummy bears?

- a)  $4 \text{ m}^2$     b)  $6 \text{ m}^2$     c)  $8 \text{ m}^2$     d)  $16 \text{ m}^2$     e)  $20 \text{ m}^2$

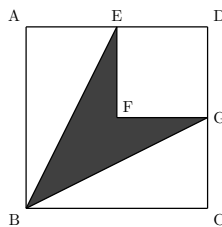
5. We have a 10 litre bucket and a 100 litre tub at our disposal. Which of the following water litre amounts can we measure using these two vessels?

- a) 1, 15 and 20    b) 5 and 10    c) 62    d) 20 and 60    e) All of the previous.

6. We wish to build a fence around a rectangular region with area  $100 \text{ m}^2$ . Which of the following options requires the least work on fencing?

- a)  $5 \text{ m} \times 20 \text{ m}$     b)  $10 \text{ m} \times 10 \text{ m}$     c)  $1 \text{ m} \times 100 \text{ m}$     d)  $25 \text{ m} \times 4 \text{ m}$     e)  $2 \text{ m} \times 50 \text{ m}$

7. The figure  $ABCD$  is a square. The point  $E$  is the midpoint of the segment  $AD$ ,  $G$  is the midpoint of the segment  $CD$  and  $F$  is the center of the square. How large a portion of the square has been colored?



- a)  $\frac{1}{2}$     b)  $\frac{2}{7}$     c)  $\frac{2}{3}$     d)  $\frac{3}{5}$     e)  $\frac{1}{4}$

