



Summer Round 2018./2019.

SCHOOL	
TEAM NUMBER	
CATEGORY	Year 7
COMPETITION COMMISSIONER	

no.	FIRST AND LAST NAME OF PARTICIPANT	YEAR	FIRST AND LAST NAME OF MENTOR
1.			
2.			

ANSWERS:

Year 7					
7.1.		7.4.		7.8.	
7.2.		7.5.		7.9.	
7.3.		7.6.		7.10.	
		7.7.		7.11.	
				7.12.	
				7.13.	
				7.14.	
				7.15.	

I ♥ MATematika

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CORRECT ANSWER: 10 POINTS**ANSWER „E“: 0 POINTS****ELSE: -2 POINTS**

7.1. If you want to answer the question in this task, what is the probability of answering correctly?

A. 0.25	B. 0.20	C. 0.50	D. 0.33	E. We do not wish to answer
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7.2. If the perimeter of a triangle is four times greater than the perimeter of a triangle that is similar to it, how many times is its area greater than the area of the similar triangle?

A. 4	B. 8	C. 16	D. It cannot be determined	E. We do not wish to answer
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7.3. Which n -sided polygon has a sum of the measures of interior angles equal to 4500° ?

A. $n = 25$	B. $n = 24$	C. $n = 23$	D. $n = 27$	E. We do not wish to answer
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CORRECT ANSWER: 20 POINTS**ANSWER „E“: 0 POINTS****ELSE: -4 POINTS**

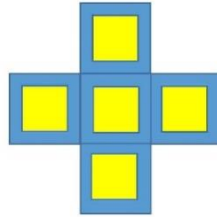
7.4. In a photocopy shop there are three machines. The first one prints 100 sheets in 2 minutes, the second one in 3 minutes and the third one in 4 minutes. The three machines were printing for 24 minutes, and then the slowest one broke down, so for the next 12 minutes, only the first two machines were printing. How many sheets in total were printed in the 36 minutes?

A. 3000	B. 3600	C. 3046	D. None of the aforementioned	E. We do not wish to answer
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7.5. How many ordered pairs (x, y) satisfy the equality $3x + 2y = 60$?

A. 19	B. 9	C. 10	D. It cannot be determined	E. We do not wish to answer
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7.6. As shown on the image, the figure consists of five yellow squares which were placed on top of five blue squares (the centres of the yellow squares are also the centres of the blue squares). The sides of the blue squares are 2 cm longer than the sides of the yellow squares. If the area of the visible blue part of the figure is 80 cm^2 , what is the perimeter of one yellow square?



A. 16 cm	B. 24 cm	C. 12 cm	D. None of the aforementioned	E. We do not wish to answer
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7.7. Fresh figs contain 89% water, and dried ones 12%. How many kilograms of fresh figs were dried if we obtained 4.5 kg of dried figs?

A. 12 kg	B. 14 kg	C. 18 kg	D. None of the aforementioned	E. We do not wish to answer
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CORRECT ANSWER: 30 POINTS

ANSWER „E“: 0 POINTS

ELSE: -6 POINTS

7.8. In an equilateral triangle ABC point D is chosen so that it divides the line segment \overline{AB} in a ratio of 1 : 4 from point A to point B . A line perpendicular to segment \overline{BC} is drawn from point D and it intersects it in point E . What is the ratio of the lengths of segments \overline{AD} and \overline{EC} ?

A. 1 : 3	B. 1 : 4	C. 2 : 3	D. It cannot be determined	E. We do not wish to answer
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7.9. In Class 7a 34% of the students are girls. In Class 7b 42% of the class are boys. If in both classes together, the girls are 48% of the students, what is the ratio of the students in classes 7a and 7b?

A. 5 : 7	B. 5 : 6	C. 7 : 5	D. It cannot be determined	E. We do not wish to answer
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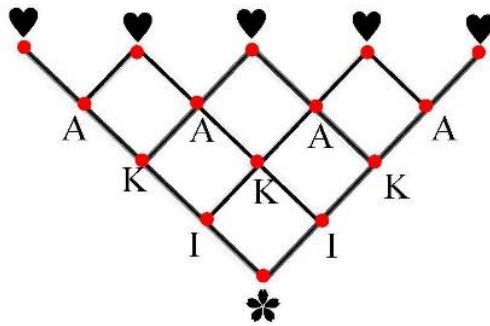
7.10. The diagonals of an isosceles trapezium intersect at a right angle. If the midline (midsegment) of the trapezium is 16 cm long, what is the area of the trapezium?

A. 1024 cm^2	B. 512 cm^2	C. 256 cm^2	D. It cannot be determined	E. We do not wish to answer
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7.11. The shape of a paper is an equilateral triangle. Let us fold its vertices so that they meet at the centre of the triangle's circumscribed circle. By what percentage is the area of the obtained figure less than the area of the triangle?

A. 66.66 %	B. 33.33 %	C. 50 %	D. None of the aforementioned	E. We do not wish to answer
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7.12. A girl named Ika wants to go from ♣ to ♥ by writing the sequence ♣IKA♥. In how many different ways can she do that?



A. 16	B. 8	C. 5	D. None of the aforementioned	E. We do not wish to answer
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7.13. How many integers n are there so that the fraction $\frac{n+4}{3n-2}$ is an integer?

A. 0	B. 3	C. 4	D. 8	E. We do not wish to answer
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7.14. The shorter diagonal of a quadrilateral is as long as all of its sides. How many times longer is the longer diagonal of the quadrilateral than the shorter diagonal?

A. There is no such quadrilateral	B. 2	C. $\sqrt{3}$	D. It cannot be determined	E. We do not wish to answer
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7.15. Roko and Roč have many things in common: both like to eat cake, they were both born on February 29th, and they have the same initials. But, in many ways they are different: Roko prefers Physics, and Roč Maths; Roko roots for Hajduk, and Roč for Dinamo; Roko likes chess, and Roč waterpolo. If at this moment, the product of their ages is 308, what is the sum of their ages?

A. 51	B. 36	C. 39	D. It cannot be determined	E. We do not wish to answer
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