Summer Round 2018./2019.

SCHOOL	
TEAM NUMBER	
CATEGORY	**Year 6**
COMPETITION COMISSIONER	

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

ANSWERS:

Year 6					
6.1.		6.4.		6.8.	
6.2.		6.5.		6.9.	
6.3.		6.6.		6.10.	
		6.7.		6.11.	
				6.12.	
				6.13.	
				6.14.	
				6.15.	

I ♥ MATematika

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CORRECT ANSWER: 10 POINTS	ANSWER „E“: 0 POINTS	ELSE: –2 POINTS

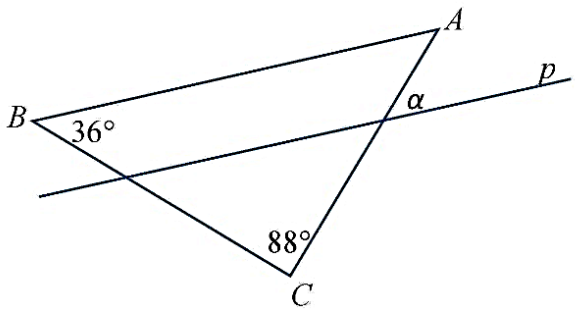
6.1. What is the result of $1-2(-3)-(4-5)-(6-(7-8)-9)$?

A.	**B.**	**C.**	**D.**	**E.**
12	8	–6	10	We do not wish to answer

6.2. The numbers placed symmetrically around the zero on the number line are called:

A.	**B.**	**C.**	**D.**	**E.**
Negative numbers	Opposite numbers	Reciprocal numbers	None of the aforementioned	We do not wish to answer

6.3. If line p is parallel to AB, what is the measure of angle α?



A.	**B.**	**C.**	**D.**	**E.**
56°	36°	66°	It cannot be determined	We do not wish to answer

CORRECT ANSWER: 20 POINTS	ANSWER „E“: 0 POINTS	ELSE: –4 POINTS

6.4. What is the difference of the sums of the first 70 odd natural numbers and the first 70 even natural numbers?

A.	**B.**	**C.**	**D.**	**E.**
140	–140	–70	None of the aforementioned	We do not wish to answer

6.5. The greatest common factor of two numbers in 20, and their least common multiple is 240. How many such pairs of numbers exist?

A.	**B.**	**C.**	**D.**	**E.**
1	2	3	4	We do not wish to answer

6.6. It is not possible to construct a right-angled triangle for which you are given:

A.	**B.**	**C.**	**D.**	**E.**
the length of leg a and the length of leg b	the length of leg a and the length	the length of the hypotenuse c and a right angle	the length of the hypotenuse c and the angle α	We do not wish to answer

	of the hypotenuse c			

6.7. When a bouncy ball is dropped from a certain height, it always bounces off the floor to $\frac{4}{5}$ of its previous height. Determine, rounded to the closest centimetre, from which height we must drop the ball so that after the third bounce it reaches the height of 5 cm?

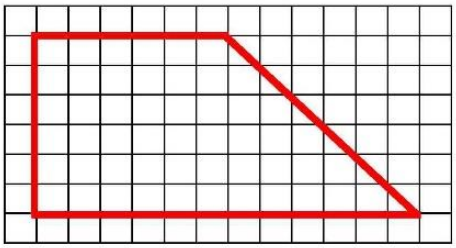
A.	**B**.	**C**.	**D**.	**E**. We do not wish to answer
2 cm	8 cm	10 cm	More than 10 cm	

CORRECT ANSWER: 30 POINTS	**ANSWER „E“: 0 POINTS**	**ELSE: –6 POINTS**

6.8. Let x be the number of all integers greater than -80 and less than 80 that are divisible by 4, and y the number of all integers greater than -50 and less than 50 that are not divisible by 5. What is $x \times y$?

A.	**B**.	**C**.	**D**.	**E**. We do not wish to answer
3120	741	3360	None of the aforementioned	

6.9. In how many equal parts (equal by shape and area) we cannot divide the figure on the image:



A.	**B.**	**C.**	**D.**	**E**. We do not wish to answer
4	3	6	None of the aforementioned	

6.10. If a three-digit number, whose digits are all equal, is multiplied by the number made up of its last two digits, which of the digits cannot be the ones digit of the product?

A.	**B.**	**C.**	**D.**	**E**. We do not wish to answer
1	2	5	6	

6.11. In a hat, there are balls with numbers written on them, so that on each ball there is one factor of number 24. No ball has the same number, and there are as many balls as there are factors of 24. Ivan drew four balls, and after that, Ante drew 3 balls. Before Ante drew the balls, Ivan was sure that the sum of numbers on Ante's three balls will be a multiple of number 3. Which of these statements is certainly correct?

A.	**B**.	**C**.	**D**.	**E**. We do not wish to answer
Ivan drew the number 3	Ivan drew the number 4	The sum of Ivan's numbers is an even number	The sum of Ante's numbers is an even number	

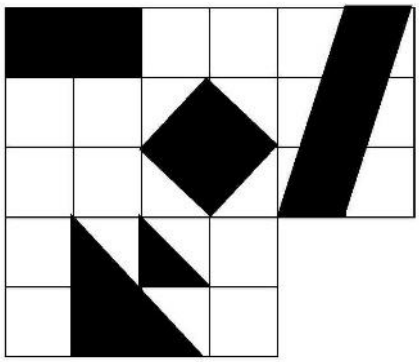
6.12. 15 equal matches need to be arranged (without breaking them) into a triangle. How many different triangles can be obtained?

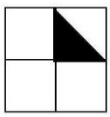
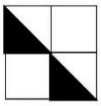
A.	**B.**	**C.**	**D.**	**E.** We do not wish to answer
5	6	7	8	

6.13. How many pairs x and y of different three-digit natural numbers exist, such that their sum is 630?

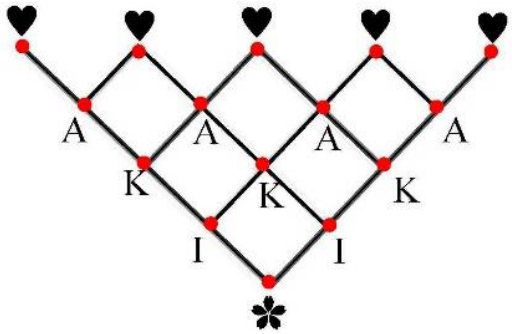
A.	**B.**	**C.**	**D.**	**E.** We do not wish to answer
214	215	530	531	

6.14. Which of the squares below needs to be added to the image so that the coloured area is equal to a half of the white area?



A.	**B.**	**C.**	**D.**	**E.** We do not wish to answer
				

6.15. A girl named Ika wants to go from ✤ to ♥ by writing the sequence ✤**IKA**♥. In how many different ways can she do that?



A.	**B.**	**C.**	**D.**	**E.** We do not wish to answer
16	8	5	None of the aforementioned	