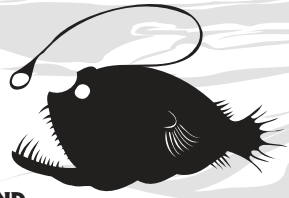




SOLUTIONS – RELAY ROUND



XVII. DÜRER COMPETITION

E+
CATEGORY

FINAL ROUND – 09–11. 02. 2024.

#	ANS	Problem statement	P
E ⁺ -1	8128	A number is called a <i>duck number</i>	3p
E ⁺ -2	888	A swordfish has a special relationship with the number 8,	3p
E ⁺ -3	14	On the circles of the diagram there are 9 ants	3p
E ⁺ -4	1232	Let N be the smallest positive integer such that	3p
E ⁺ -5	31	Dorka wrote some different positive integers on a piece of paper	4p
E ⁺ -6	45	Captain Morgan threw 9 darts aiming at the board	4p
E ⁺ -7	8064	At an individual maths competition there were 4 students	4p
E ⁺ -8	1041	We glued together a $3 \times 5 \times 5$ cuboid from small cubes	4p
E ⁺ -9	115	Gabi asked Beni when his birthday was.	5p
E ⁺ -10	64	The circle k with centre A has a radius of 14 units,	5p
E ⁺ -11	2563	Fill in the grid with the digits 1, 2, 3, 4, 5, 6	5p
E ⁺ -12	2600	The altitudes of an acute triangle are	5p
E ⁺ -13	35	Six villages, Arc, Bock, Chap, Deck, Et and Fuse	6p
E ⁺ -14	1139	What is the value of $\sum_{k=1}^{17} \frac{1}{k(k+1)(k+2)(k+3)}$?	6p
E ⁺ -15	117	Benjamin thought of a real number x	6p
E ⁺ -16	50	A positive integer n is called <i>infernal</i>	6p