

SCHOLASTIC (familial) MATH LEAGUE 2019/2020

Math problems for primary school grades 5 and 6

Set 4 /deadline January 30, 2020 /

Problem 1

In the right (right-angled) **trapezoid** (in **British English** it is known as **trapezium!**) ABCD ($AB \parallel CD$) the AC diagonal has been drawn. This way, two triangles were created, one of which was equilateral. Then the legs of this trapezoid were extended and the point of their intersection was marked with the letter M. Make a schematic drawing and provide the measurements for angles: DMC and ACD.

Problem 2

On Nina's birthday party, the fruit cake was sliced up into 16 equal pieces. First, Kasia ate one piece, then a half of a piece, and finally one more whole piece at the end of the party. What part of the whole cake did Kasia actually eat? Provide your answer in the form of an irreducible fraction (in lowest terms) with numerator and denominator both being natural numbers.

Problem 3

A flower bed has the shape of a **right triangle** (in **British English** known as **right-angled triangle**), whose heights are respectively 12 m, 13 m, and 31.2 m long. Calculate how many bags of seeds should be bought to sow the flower bed, knowing that 1 bag is enough to sow the area of 1 are (100 square metres).

Problem 4

In September, at one school, the number of boys accounted for 95% of the number of girls. Later, during the school year, as many as 11 boys were still enrolled in that school and then half of the students were girls. Calculate how many students altogether attended the school in September.

Problem 5

A number is divisible by 4 and 13. List all the other divisors of the smallest number satisfying the above criteria.