



האולימפיאדה הארצית במתמטיקה לכיתות ג'  
שלב ב, שנת תשפ"ג

1. In a magic forest there are 40 birds of 3 kinds: sparrows, pigeons and owls. There are 4 more sparrows than pigeons, and there are 3 more pigeons than owls.



How many sparrows are there in the forest?

2. In a 3 digit number none of the digits are 0. If we'll erase the hundred's digit then the remaining two-digit number will be divisible by 7. If we'll erase the tens digit, then the remaining two-digit number will be divisible by 13. If we will erase the units digit, the remaining number will be divisible by 5.

What is the original number?

3. In the following addition exercise,  representing a digit and  representing **another** digit.

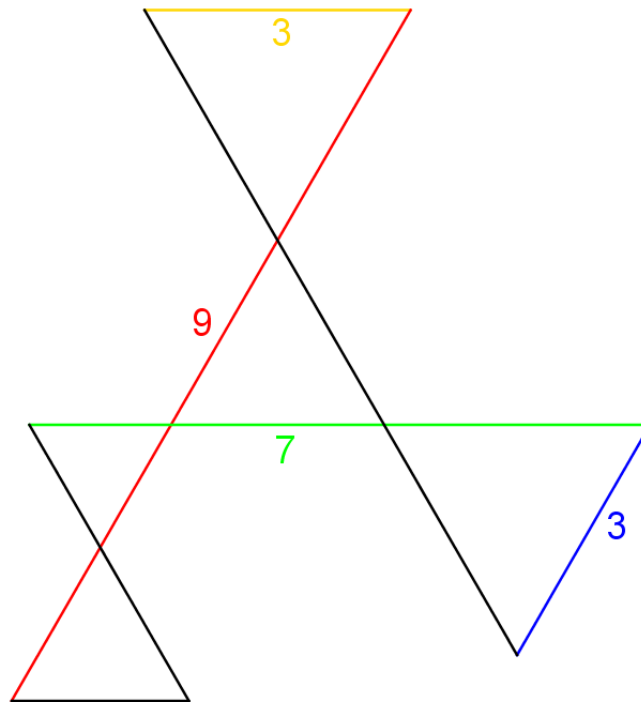
$$\begin{array}{c} \text{cat} \\ \text{rabbit} \end{array} = \begin{array}{c} \text{rabbit} \\ \text{cat} \end{array} + \begin{array}{c} \text{cat} \\ \text{cat} \end{array} + \begin{array}{c} \text{rabbit} \\ \text{cat} \end{array}$$

What is the number  ?



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4. All the triangles in the figure are equilaterals. Calculate the perimeter of the shape



5. Dani has cardboard shapes: a triangle, a quadrilateral, a pentagon, a hexagon, a heptagon and an octagon. He is writing on each shape a difference number between 3,4,5,6,7,8, such that on any shape, the number that written on it is different then the number of sides of the shape.

It is known that the number that written on the triangle is smaller then the number that written on heptagon.

Also, the number on quadrilateral is equal to the sum of the numbers on pentagon and heptagon.

Which number is written on hexagon?

6. Third grade students are planning to go for a 3 days trip. Each day they can walk 20 kilometers, 10 kilometers or rest. In total they want to walk 40 kilometers, in how many ways they can do that?