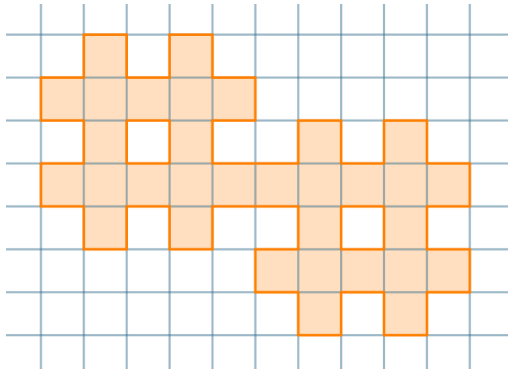


Israeli Mathematical Olympiad for 5-6 grades

Second stage

1. What is the maximal number of “dominoes” (2×1 or 1×2 rectangles) that can be placed inside the orange figure, so that no two dominoes will overlap.



2. In the morning the bakery had 135 pounds of flour and 92 pounds of sugar. To bake one cake, the baker uses one pound of flour and one pound of sugar. At the end of the day, the amount of flour left was twice as large as the amount of sugar that was left.

How many cakes did the baker bake during the day?

3. In the following formula different characters replace different digits, and same characters replace the same digits:

$$\text{שלב} + \text{לבש} = \text{בלש}$$

Find the value of the number **שלב** .

4. A “special” positive integer number is a number that satisfies the following three rules:

If it is not divisible by 43, then it is divisible by 41.

If it is not divisible by 53, then it is divisible by 43.

If it is not divisible by 41, then it is divisible by 53.

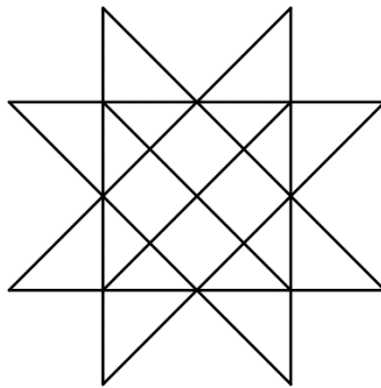
Find a “special” number that is smaller than 2000.

Israeli Mathematical Olympiad for 5-6 grades

Second stage

5. A painter paint a square 10×10 grid in many different colors. To do so, he picks a row or a column of the grid, and a color, and fills the whole row or column using that color (So that only that color can now be seen in that row or column). What is the maximal number of colors that can be seen on the painted square after a number of those operations?

6. How many triangles are in the following picture:



Good Luck!