7 Kandinsky

Author: Cor Hurkens (TU Eindhoven)
Project: 4TU.AMI

Challenge

The Grinch offers a painting with the title *Solar Eclipse Number 8* for sale, which (according to the Grinch) might possibly be the work of Wassily Wassilyevich Kandinsky (see Fig. 1).

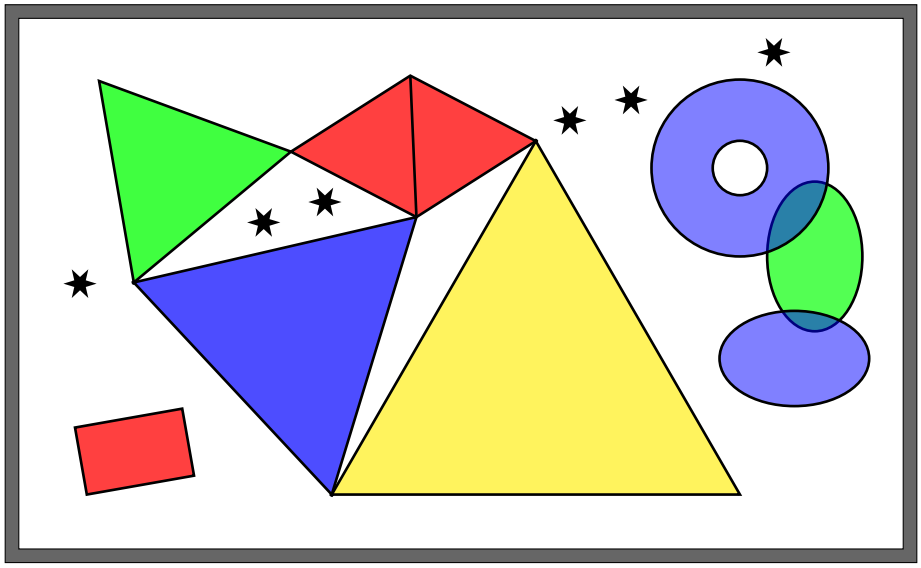

Figure 1: The painting *Solar Eclipse Number 8*

The authenticity-check-elf Austin has carefully examined the painting and has come to the following conclusions:

- The yellow, the blue, the green and the two red triangles in the painting are equilateral; all angles in these triangles are 60°.
- The center points of the six little black stars lie on a common straight line.
- The red quadrilateral in the lower left corner of the painting is a rectangle. The third digit behind the decimal point in the decimal representation of the area of this rectangle (measured in square meters) is 4.

- The green and the blue ellipses at the right margin of the painting are congruent.
- The two red triangles are congruent and each have an area of 4/3 square meters.
- The areas of the yellow and the green triangles add up to an even integer number of square meters.

We would like to know: what is the third digit behind the decimal point in the decimal representation of the area of the blue triangle (measured in square meters)?

Artwork: Friederike Hofmann

Possible answers:

1. The third digit behind the decimal point is 1.
2. The third digit behind the decimal point is 2.
3. The third digit behind the decimal point is 3.
4. The third digit behind the decimal point is 4.
5. The third digit behind the decimal point is 5.
6. The third digit behind the decimal point is 6.
7. The third digit behind the decimal point is 7.
8. The third digit behind the decimal point is 8.
9. The third digit behind the decimal point is 9.
10. There is not enough information in the problem statement that would allow to uniquely determine this third digit behind the decimal point.