

FILL THE GAP!

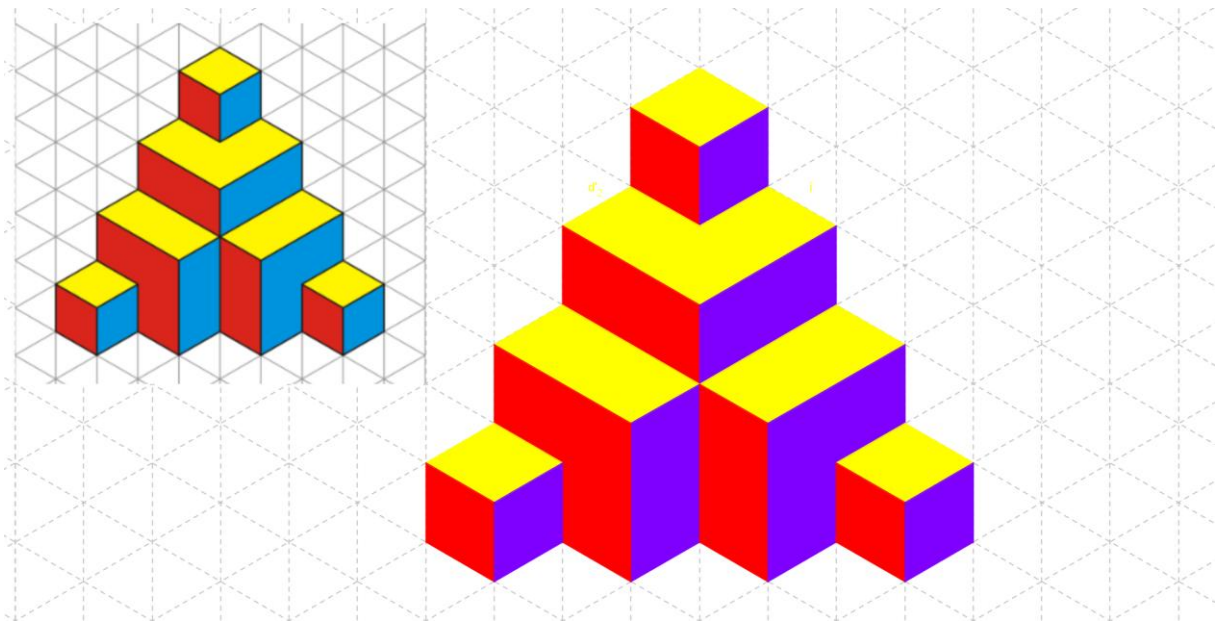
GeoGebra Action Package (GAP) for the ADVENTURES ON PAPER exercise book

Tamás F. Farkas: Impossible Objects, Paradox Figures

Before starting the exercises, prepare the following settings in GeoGebra: Settings menu - Advanced - Properties - Drawing sheet - Grid - Show grid - Grid type: isometric.

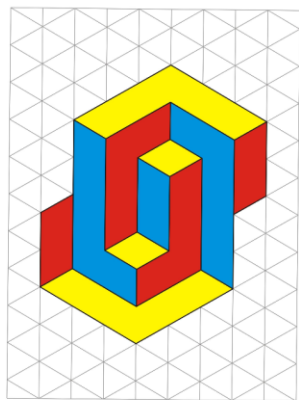
Then you obtain the grid of regular triangles, necessary for accomplishing the exercises

Exercise 1 (FFarkas1.ggb)

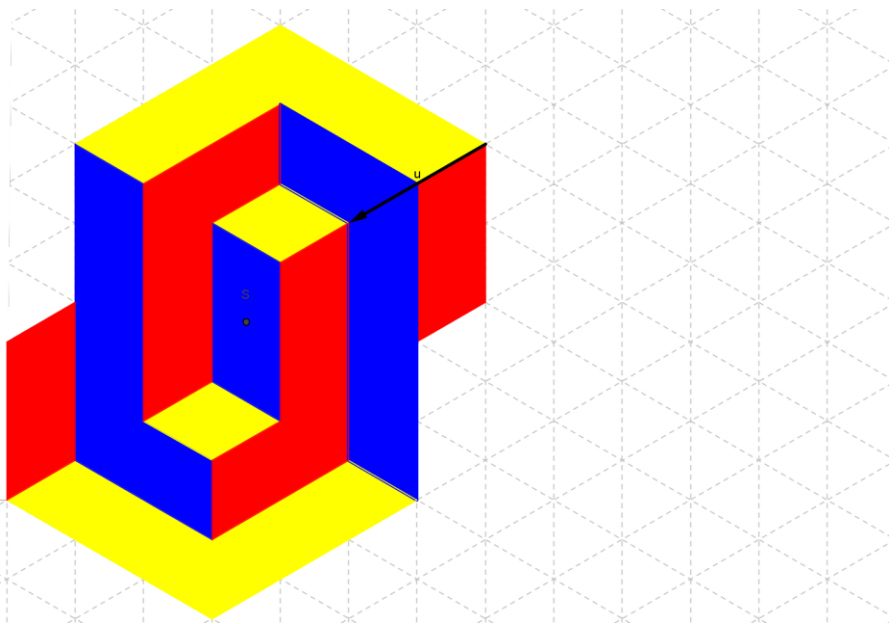


Construct the image of the impossible figure shown above in GeoGebra! How many different shapes can be seen in the image (different colours, but same shapes not to be regarded as different)? From each shapes draw only one, the rest of the necessary shapes can be obtained by transformations. What transformations had to be applied? (The full figure can be made of three different shapes only with using only mirror reflection with well chosen mirror axis.)

Exercise 2 (Ffarkas2.ggb)



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Constructing the image lets you to exercise point reflections. The image shown above can be constructed of five different figures by reflection on the 'S' point, except the red parallelogram, which glide reflection takes into the blue parallelogram.