

THREE PUZZLES WITH POLYHEDRA AND NUMBERS

JORGE REZENDE

We present here three *puzzles with polyhedra and numbers*. A **deltoidal icositetrahedron** puzzle, a **rhombicuboctahedron** puzzle and a **rhombic dodecahedron** puzzle. It is allowed to print copies for non-commercial purposes. If you want to construct the puzzles print them on heavy paper.

Each puzzle has two parts: the polyhedron model (to cut, fold and glue) and the plates with numbers which must be cut. In the **deltoidal icositetrahedron** puzzle one obtains 24 different deltoidal plates. In the **rhombicuboctahedron** puzzle one obtains 18 different square plates and 8 different triangular plates. In the **rhombic dodecahedron** puzzle one obtains 12 different plates (lozenges).

On each polyhedron face it is necessary to glue photo corners as the figure shows. This operation is easier if one does it just after cutting the polyhedron.

The game consists in placing the plates over the polyhedron faces (as it is shown in the figure) in such a way that the two numbers near each polyhedron edge are equal.

REFERENCES

- [1] Jorge Rezend: *Jogos com poliedros e permutações*. Bol. Soc. Port. Mat. **43**, 105–124 (2000). http://gfm.cii.fc.ul.pt/Members/JR.pt_PT.html
- [2] Jorge Rezend: *Puzzles com poliedros e números*. SPM: Lisboa 2001. <http://www.spm.pt/SPM/lojaSPM.html>
- [3] Jorge Rezend: *On the Puzzles with polyhedra and numbers* (2001). http://gfm.cii.fc.ul.pt/Members/jr_poliedros-puzzles_en.pdf
E-mail address: rezende@cii.fc.ul.pt
URL: http://gfm.cii.fc.ul.pt/Members/JR.pt_PT.html

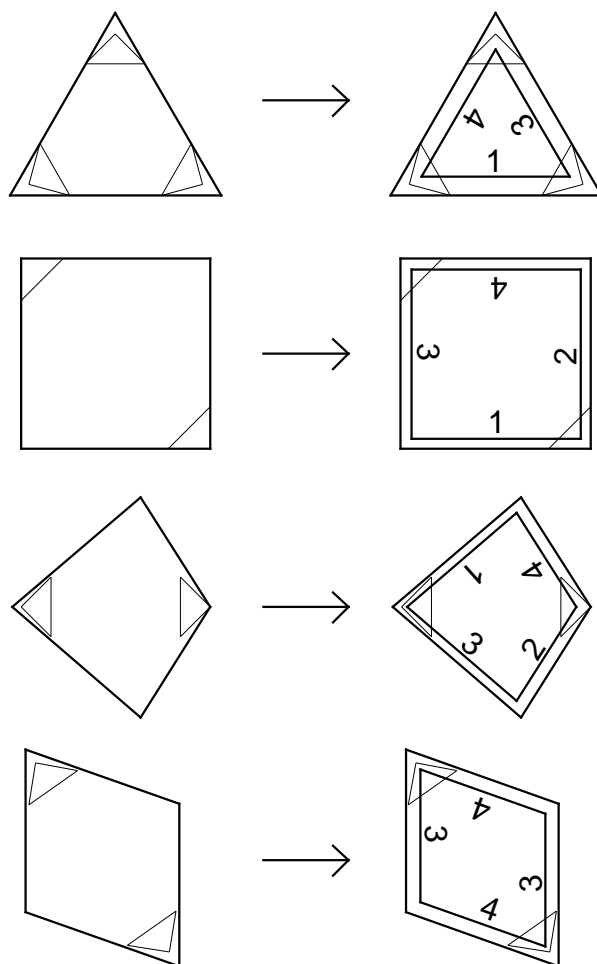


FIGURE 1. Faces, photo corners and plates.