Title: Cuts of polyhedrons

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Abstract: The topic of the bachelor thesis is Cross Sections of Polyhedra. The basic principles of constructing such cross sections are shown and explained through illustrative examples of cross sections of solids together with the detailed description of the construction process. Especially, the cross sections of some „common“ polyhedra like prism, tetrahedron, pyramid or octahedron are further discussed. The reader should use them to take up with the main issue of constructing cross sections. As an application of the acquired knowledge, the cross sections of other solids like Platonic or Archimedean solids are introduced here. The goal of these examples is to cultivate spatial intelligence for the purpose of constructing cross sections or better understanding of polyhedral in general. The bachelor thesis is a commented set of examples, which can be used as an additional material in the education of mathematics, not only in grammar schools.

Keywords: cross sections, cube, cuboid, prism, pyramid, tetrahedron, regular polyhedra, semi-regular polyhedra