

Title: Platonic and Archimedean solids and their properties in teaching of mathematics at secondary schools

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Abstract: This work is an extension of my bachelor work and it is intended for all people interested in regular and semiregular polyhedra geometry. It is a comprehensive text which summarizes brief history, description and classification of regular and semiregular polyhedra. The work contains proofs of Descartes' and Euler's theorems and proofs about number of regular and semiregular polyhedra. It can be also used as a didactic aid in the instruction of regular and semiregular solids at secondary schools. This text is supplemented by illustrative pictures made in GeoGebra and Cabri3D.

Keywords: Regular polyhedra, platonic solids, Platon, semiregular polyhedra, Archimedean solids, Archimedes, dualism, Descartes' theorem, Euler's theorem.