

Solution Book of Mathematic

Senior 2 Part I

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Chapter 15

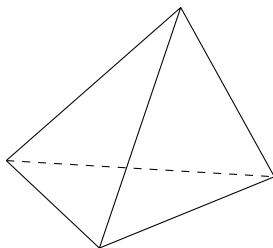
Solid Geometry, Longitude and Latitude

15.1 Solid Geometry

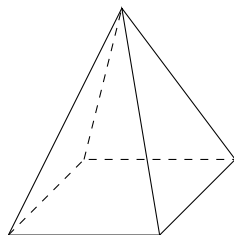
Polyhedron

A polyhedron is a solid bounded by a finite amount of flat polygon, and each side of the polygons must be the common edge of two polygons. Polyhedron can be classified into tetrahedron, pentahedron, hexahedron, etc. based on the number of flat surfaces, aka the *faces* of the polyhedron. The common side of two faces of a polyhedron is called an edge, and the common vertex of three edges is called an *apex*.

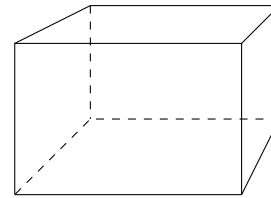
Besides, the angles formed by the faces intersecting at the same vertex are called polyhedral angles or solid angles. The line segment connecting two apexes at different faces is called a *diagonal*.



Tetrahedron



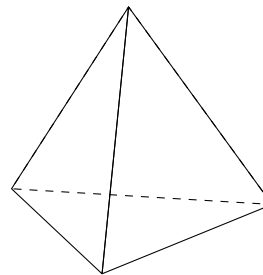
Pentahedron



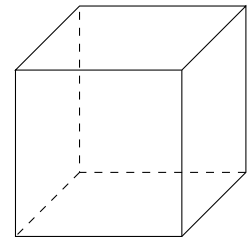
Hexahedron

Regular Polyhedron

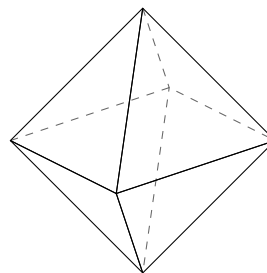
A regular polyhedron is a polyhedron with all faces being regular polygons, and all polyhedral angles being equal. The regular polyhedron can be classified into 5 types: tetrahedron, octahedron, cube, icosahedron and dodecahedron.



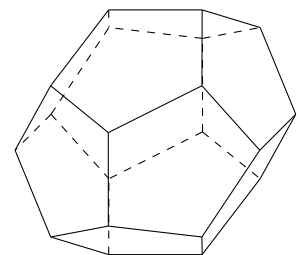
Regular Tetrahedron



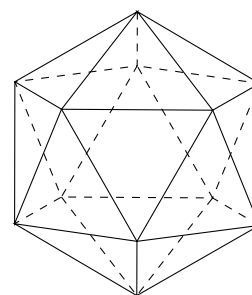
Regular Octahedron



Regular Cube



Regular Dodecahedron



Regular Icosahedron