Topic Page: Pyramid (Geometry)

Definition: **pyramid** from *Philip's Encyclopedia*

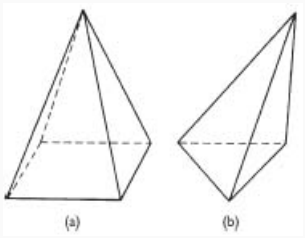
In geometry, solid figure having a polygon as one of its faces (the base), the other faces being triangles with a common vertex. Its volume is one third of the base area times the vertical height. Pyramids are described by the shape of their bases, such as a square pyramid or a triangular pyramid.

Summary Article: **pyramid**
From *The Penguin Dictionary of Mathematics*

A solid figure (a polyhedron) formed by a polygon (the *base*) and a number of triangles (*lateral faces*) with a common vertex that is not coplanar with the base. Line segments from the common vertex to the vertices of the base are *lateral edges* of the pyramid. Pyramids are named according to the base: a triangular pyramid (which is a tetrahedron), a square pyramid, a pentagonal pyramid, etc.

If the base has a centre, a line from the centre to the vertex is the *axis* of the pyramid. A pyramid that has its axis perpendicular to its base is a *right pyramid*; otherwise, it is an *oblique pyramid*. If the base is a regular polygon and the pyramid is a right pyramid, then it is also a *regular pyramid*.

The *altitude (h)* of a pyramid is the perpendicular distance from the base to the vertex. The volume of any pyramid is 1/3 *Ah*, where *A* is the area of the base. In a regular pyramid, all the lateral edges have the same length. The *slant height (s)* of the pyramid is the altitude of a face; the total surface area of the lateral faces is 1/2*sp*, where *p* is the perimeter of the base polygon.



pyramid (a) Right square and (b) oblique triangular pyramids.

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