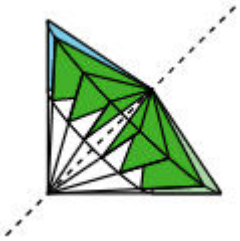
Unit 5 Glossary Terms

Axis of rotation

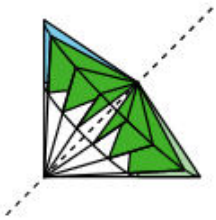
A line about which a two-dimensional figure is rotated to produce a three-dimensional figure, called a solid of rotation. The dashed line is the axis of rotation for the solid of rotation formed by rotating the green triangle.



solid of rotation

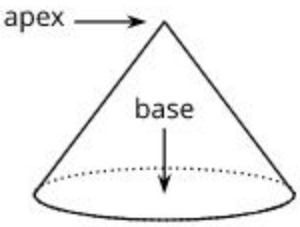
A three-dimensional figure formed by rotating a two-dimensional figure using a line called the axis of rotation.

The axis of rotation is the dashed line. The green triangle is rotated about the axis of rotation line to form a solid of rotation.



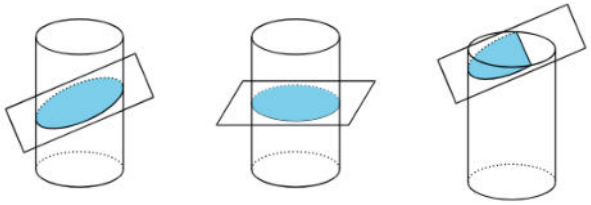
cone

A cone is a three-dimensional figure with a circular base and a point not in the plane of the base called the apex. Each point on the base is connected to the apex by a line segment.



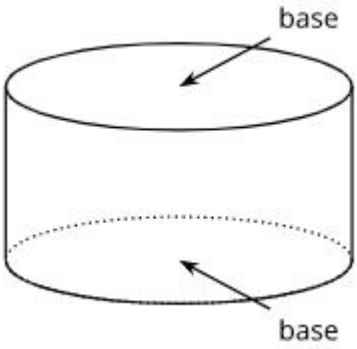
Cross section

The figure formed by intersecting a solid with a plane.



cylinder

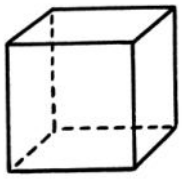
A cylinder is a three-dimensional figure with two parallel, congruent, circular bases, formed by translating one base to the other. Each pair of corresponding points on the bases is connected by a line segment.



face

Any flat surface on a three-dimensional figure is a face.

A cube has 6 faces.

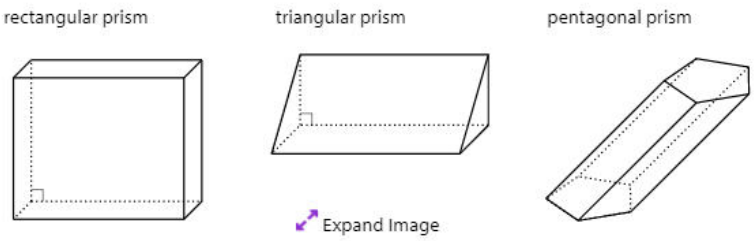


sphere

A sphere is a three-dimensional figure in which all cross-sections in every direction are circles.

prism

A prism is a solid figure composed of two parallel, congruent faces (called bases) connected by parallelograms. A prism is named for the shape of its bases. For example, if a prism's bases are pentagons, it is called a "pentagonal prism."

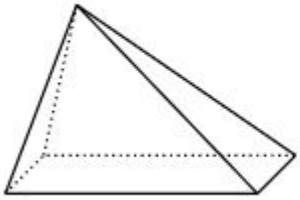


pyramid

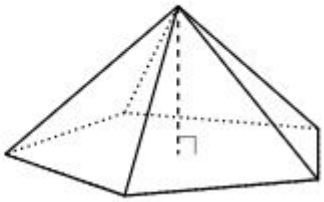
A pyramid is a solid figure that

has one special face called the base. All of the other faces are triangles that meet at a single vertex called the apex. A pyramid is named for the shape of its base. For example, if a pyramid's base is a hexagon, it is called a "hexagonal pyramid."

square pyramid



pentagonal pyramid



Cube root

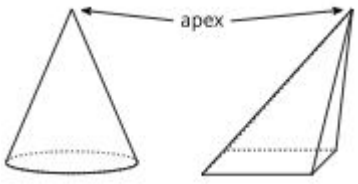
The cube root of a number x , written $\sqrt[3]{x}$, is the number y whose cube is x . That is,$y^3 = x$.

Cavalieri's Principle

If two solids are cut into cross sections by parallel planes, and the corresponding cross sections on each plane always have equal areas, then the two solids have the same volume.

apex

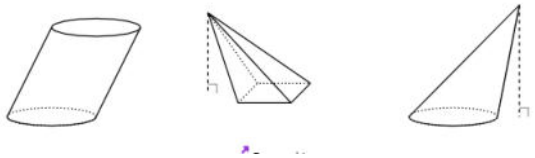
The single point on a cone or pyramid that is the furthest from the base. For a pyramid, the apex is where all the triangular faces meet.



oblique (solid)

Prisms and cylinders are said to be *oblique* if when one base is translated to coincide with the other, the directed line segment that defines the translation is not perpendicular to the bases.

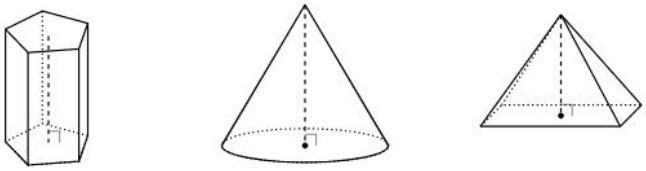
A cone is said to be *oblique* if a line drawn from its apex at a right angle to the plane of its base does not intersect the center of the base. The same definition applies to pyramids whose bases are figures with a center point, such as a square or a regular pentagon.



right (solid)

Prisms or cylinders are said to be *right* if when one base is translated to coincide with the other, the directed line segment that defines the translation is perpendicular to the bases.

A cone is said to be *right* if a line drawn from its apex at a right angle to the plane of its base passes through the center of the base. The same definition applies to pyramids whose bases are figures with a center point, such as a square or a regular pentagon.



density

The mass of a substance per unit volume.