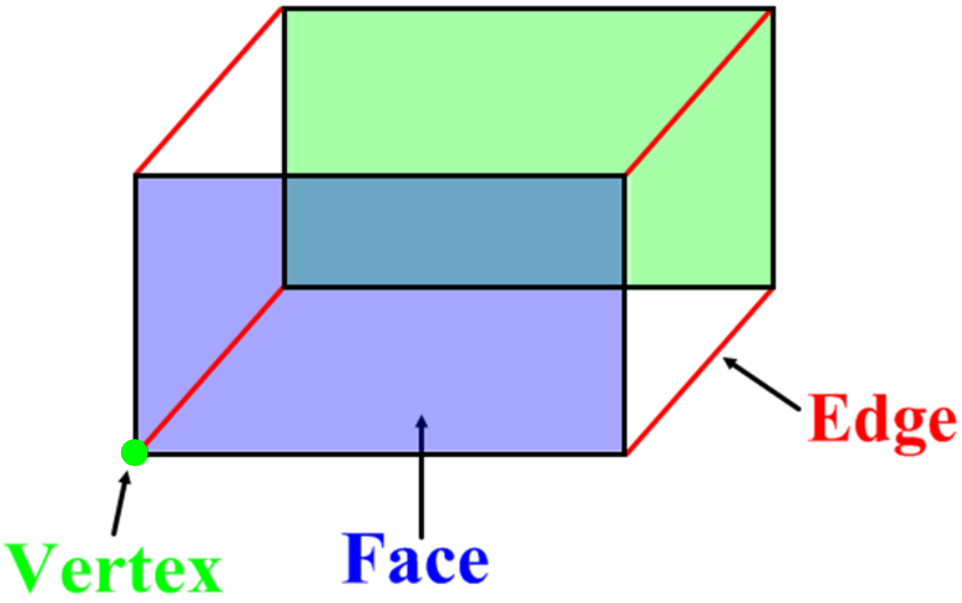
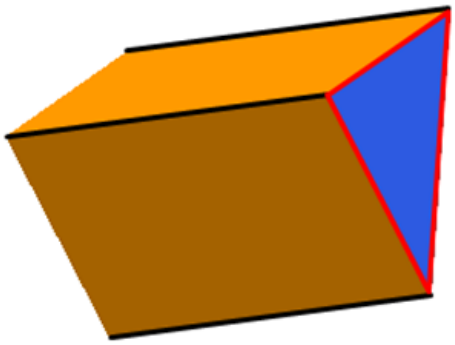
Polyhedra (Solids)

3 dimensional objects


Edge
Vertex
Face

Def. Lateral edges

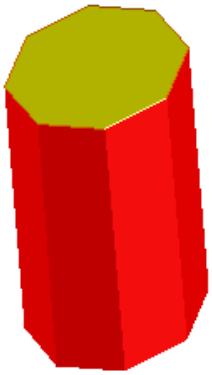
The intersection of 2 adj. lateral faces.

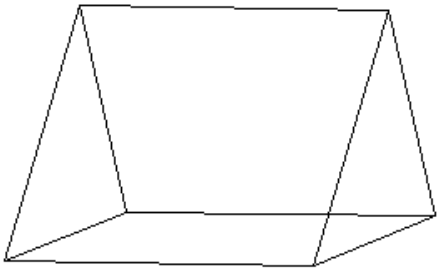


Def. Prism

A solid with 2 congruent faces that are polygons contained in parallel planes, called the bases.

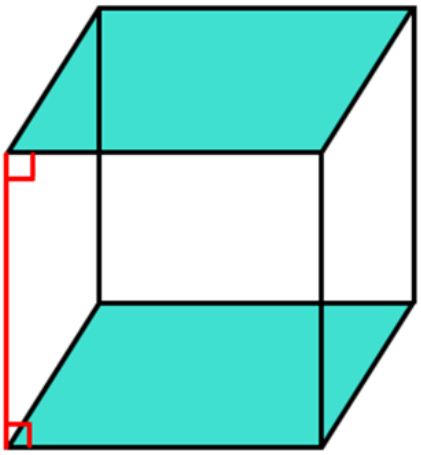
The other faces are ALWAYS parallelograms, called the Lateral Faces.





Def. Altitude (or height) of a prism

A segment that goes from BASE to BASE and is PERPENDICULAR to both bases.

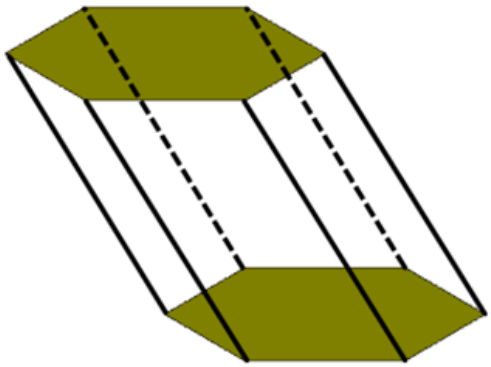


Def. Right Prism

A prism where the lateral edges are also the altitudes.

Def. Oblique Prism

A prism where the lateral edges are NOT the altitudes.



Lateral Area of a Right Prism

$$L = Ph$$

Where L is the Lateral area,
P is the Perimeter of ONE base,
h is the height of the prism.

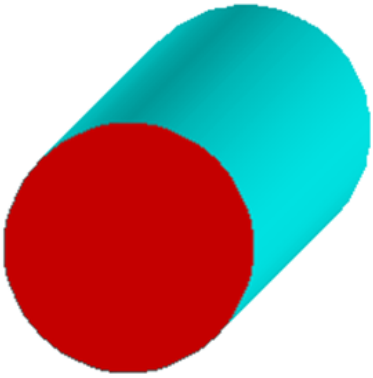
Surface Area of a Right Prism

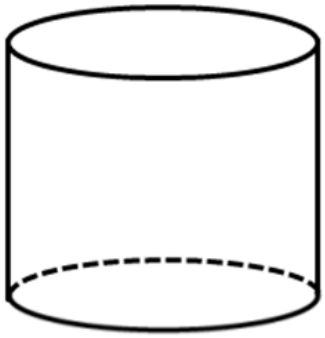
$$S = Ph + 2B$$

Where S is the Surface area,
P is the Perimeter of ONE base,
h is the height of the prism,
B is the area of 1 base.

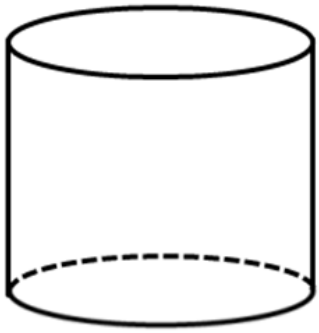
Def. Cylinder

A solid with 2 ≅ circular bases.

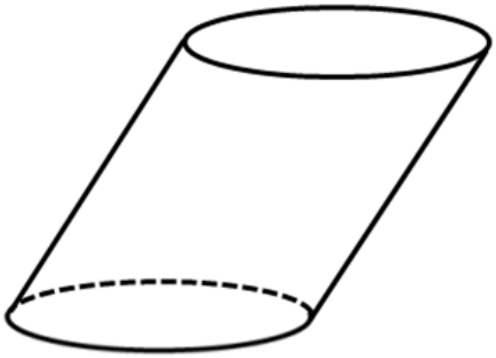




Right Cylinder

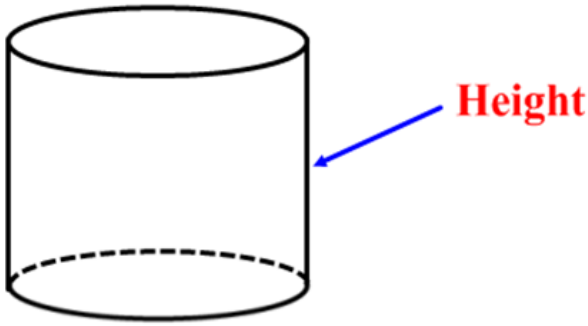


Oblique Cylinder



Def. Height of a Cylinder

The perpendicular distance between the bases



Lateral Area of a Right Cylinder

$$L = 2\pi rh$$

Where L is the Lateral area,
r is the radius of ONE base,
h is the height of the cylinder.

Surface Area of a Right Cylinder

$$S = 2\pi rh + 2\pi r^2$$

Where S is the Surface area,
r is the radius of ONE base,
h is the height of the cylinder.