

Section 11.4: Geometry in Three Dimensions

Polyhedron: A simple closed surface made up of polygonal regions.

- Face: the polygonal regions
- Vertices: the vertices of the polygons (common endpoint of two sides)
- Edges: the sides of each face

Prisms:

Base:

Lateral Faces:

Right Prism:

Oblique Prism:

Pyramids:

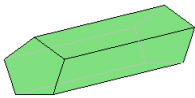
Base:

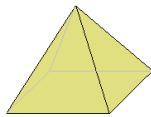
Lateral Faces:

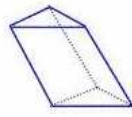
Right Pyramid:

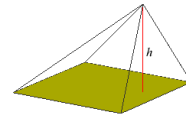
Oblique Pyramid:

Polyhedra are named according to the base. Name each of the following shapes as specifically as possible.









Simple Closed Surfaces that are NOT polyhedra

Cylinders:

Base:

Lateral Surface:

Right Circular Cylinder:

Oblique Circular Cylinder:

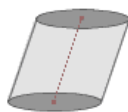
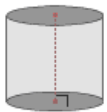
Cones:

Base:

Lateral Surface:

Right Circular Cone:

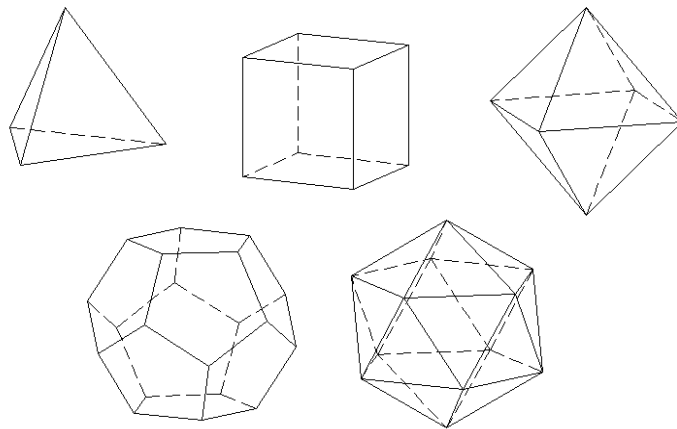
Oblique Circular Cone:



Regular Polyhedra:

- Convex polyhedron
- Faces are congruent regular polygons
- Number of edges that meet at each vertex is the same for all vertices

Type	Face	# of edges at vertices	Total # of faces	Interior Angle Measure	Total # of vertices	Total # of edges
Tetrahedron						
Octahedron						
Icosahedron						
Cube						
Dodecahedron						



Euler's Formula (for convex polyhedra):

A relationship among the number of vertices (V), edges (E), and faces (F).

What relationship is suggested by the table above?

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