

Name:

Date:

Period: 6

Three-Dimensional Figures

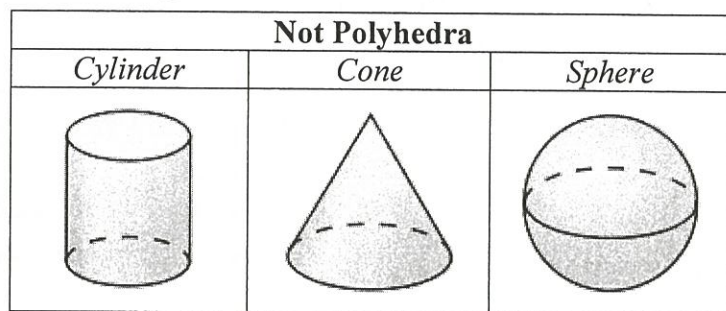
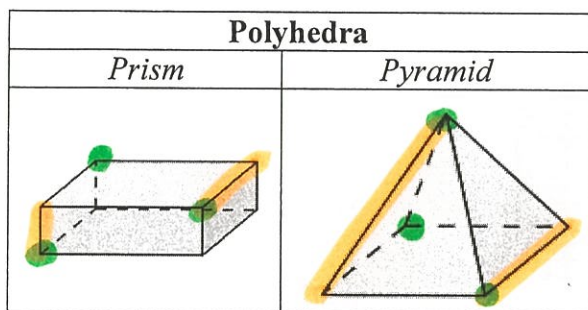
on Objective INBAT classify solids, describe cross sections, and sketch solids of revolution

A three-dimensional figure (or solid) is bounded by flat or curved surfaces that enclose a single region of space.

Polyhedron: A polyhedron is a solid that is bounded by polygons, called faces.
 → Plural: "polyhedra" or "polyhedrons"

Edge: The edge of a polyhedron is a line segment formed by the intersection of two faces.

Vertex: A vertex of a polyhedron is a point where three or more edges meet.



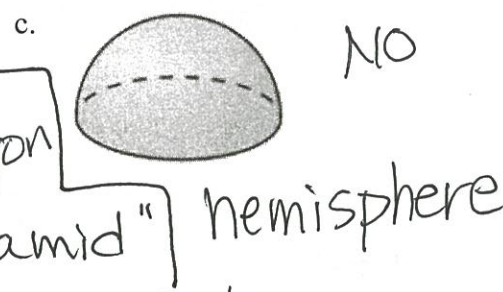
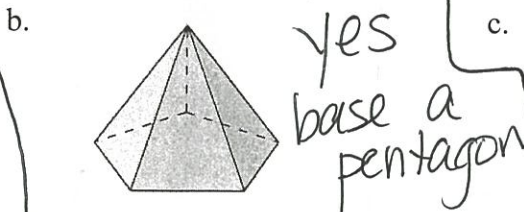
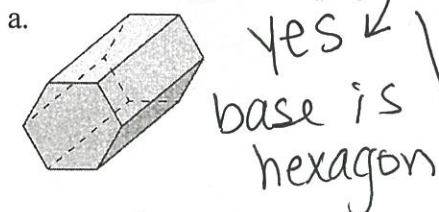
ame a prism or pyramid, use the shape of its base.

→ The bases of a prism are // and ≅ polygons.

→ The base of a pyramid is the polygon that all of the triangular faces touch.

Example:

1. Tell whether the figure is a polyhedron. Then name the solids.



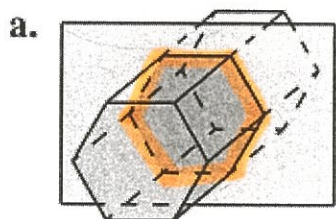
"hexagonal prism"

"pentagonal pyramid"

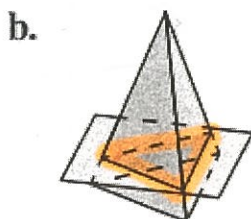
Cross Section: A cross section is that intersection of a plane and a solid.

Example:

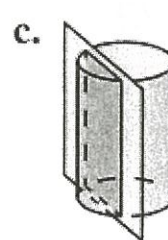
2. Describe the shape formed by the intersection of the plane and the solid.



hexagon

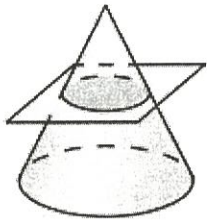


triangle



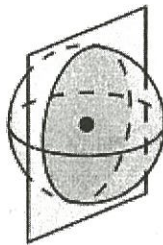
rectangle

d.



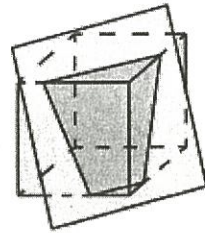
circle

e.



circle

f.

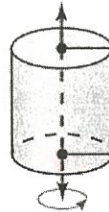


trapezoid

Solid of Revolution: a solid of revolution is a three-dimensional figure that is formed by rotating a two-dimensional shape around an axis.

→ The line that the shape is rotated around is called the axis of revolution.

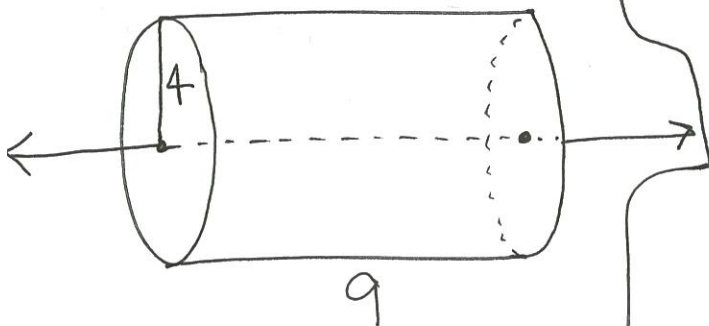
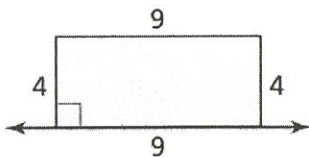
For example, when you rotate a rectangle around a line that contains one of its sides, the solid of revolution that is produced is a cylinder.



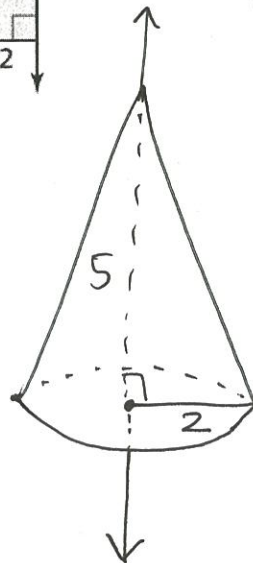
Example:

3. Sketch the solid produced by rotating the figure around the given axis. Then identify and describe the solid.

a.



b.



c.

