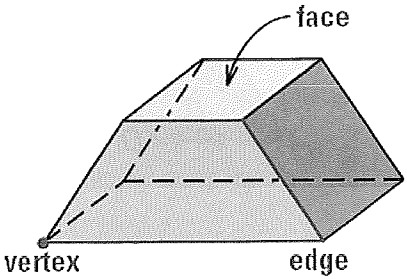
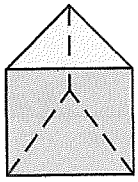
3-D SOLIDS INTRO

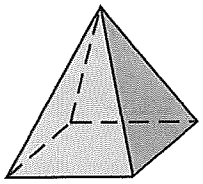
A **polyhedron** is a solid that is bounded by polygons, called **faces**, that enclose a single region of space. An **edge** of a polyhedron is a line segment formed by the intersection of two faces. A **vertex** of a polyhedron is a point where three or more edges meet. The plural of polyhedron is *polyhedra*, or polyhedrons.

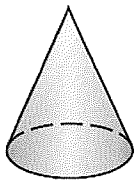


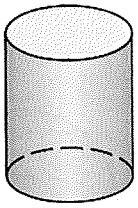
CONCEPT SUMMARY **TYPES OF SOLIDS**

Of the five solids below, the prism and pyramid are polyhedra. The cone, cylinder, and sphere are not polyhedra.

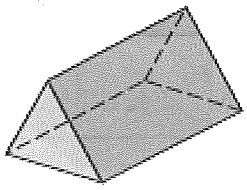
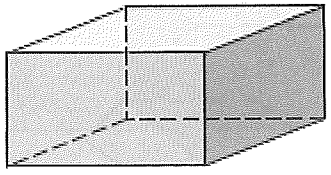
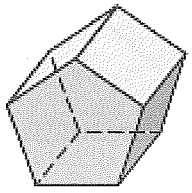
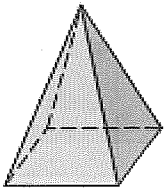

Prism


Pyramid


Cone

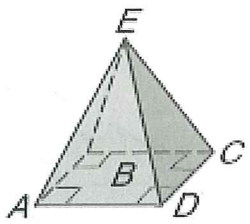

Cylinder


Sphere

Name	Triangular Prism	Rectangular Prism	Pentagonal Prism	Square Pyramid
Model				
Shape of Base(s)	triangle	rectangle	pentagon	square

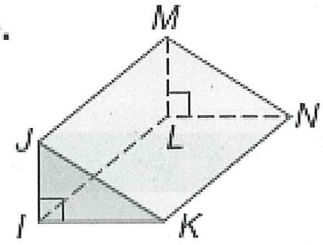
Identify the solid, then name the base(s), name the number of faces and the number of edges.

a.



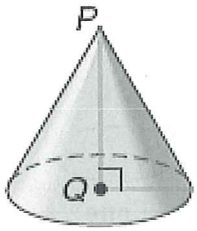
Solid: Pyramid
Name of Bases: Rectangle
# of faces: 5 (4 △'s + 1 □)
# of edges: 8

b.



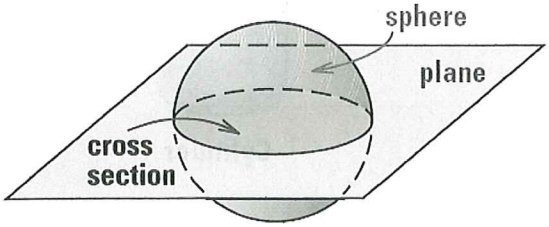
Solid: Prism
Name of Bases: Triangle (right)
# of faces: 5 (2 △ + 3 □)
# of edges: 9

c.



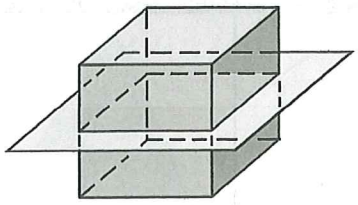
Cone
- Name of Bases: Circle
- # of faces: 2
- # of edges: 2

Imagine a plane slicing through a solid. The intersection of the plane and the solid is called a **cross section**. For instance, the diagram shows that the intersection of a plane and a sphere is a circle.



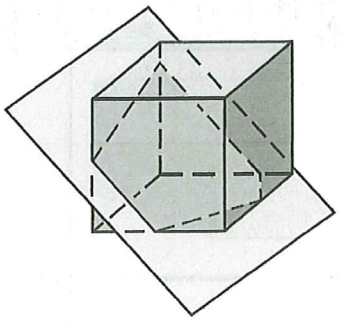
Describe the shape formed by the intersection of the plane and the cube.

a.



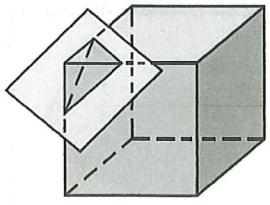
- Rectangle

b.



Pentagon

c.



Triangle