

# Chapter 11: Surface Area & Volume

## SECTION 1: SOLID GEOMETRY

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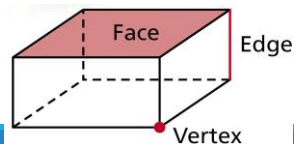
## Solid Geometry

Three-dimensional figures, or solids, can be made up of flat or curved surfaces.

Each flat surface is called a **face**.

An **edge** is the segment that is the intersection of two faces.

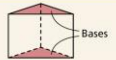
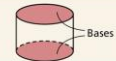
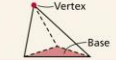

A **vertex** is the point that is the intersection of three or more faces.



## I Can

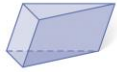
- ❑ Classify three dimensional figures according to their properties
- ❑ Use nets and cross sections to analyze 3D figures

## 3D Figures

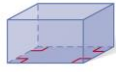
Three-Dimensional Figures	
TERM	EXAMPLE
A <b>prism</b> is formed by two parallel congruent polygonal faces called <b>bases</b> connected by faces that are parallelograms.	
A <b>cylinder</b> is formed by two parallel congruent circular bases and a curved surface that connects the bases.	
A <b>pyramid</b> is formed by a polygonal base and triangular faces that meet at a common vertex.	
A <b>cone</b> is formed by a circular base and a curved surface that connects the base to a vertex.	

## Prisms

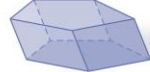
A **cube** is a prism with six square faces. Other prisms and pyramids are named for the shape of their bases.



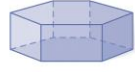
Triangular prism



Rectangular prism



Pentagonal prism



Hexagonal prism



Triangular pyramid



Rectangular pyramid



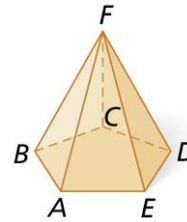
Pentagonal pyramid



Hexagonal pyramid

## Classifying 3D Figures

**Classify the figure. Name the vertices, edges, and bases.**



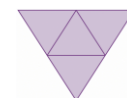
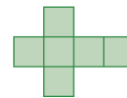
## Nets

A **net** is a diagram of the surfaces of a three-dimensional figure that can be folded to form the three-dimensional figure.

To identify a three-dimensional figure from a net, look at the number of faces and the shape of each face.

## Nets

**Describe the three-dimensional figure that can be made from the given net.**

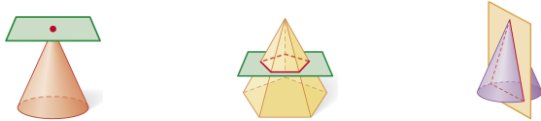


## Cross Sections

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A **cross section** is the intersection of a three-dimensional figure and a plane.

**Describe the cross section.**



### I Can

- Classify three dimensional figures according to their properties
- Use nets and cross sections to analyze 3D figures