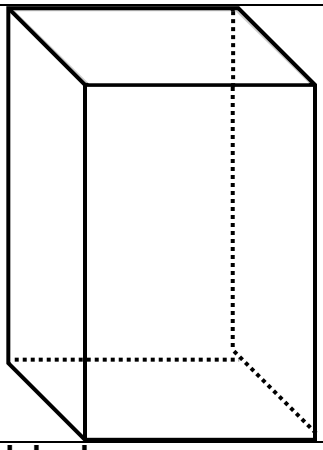
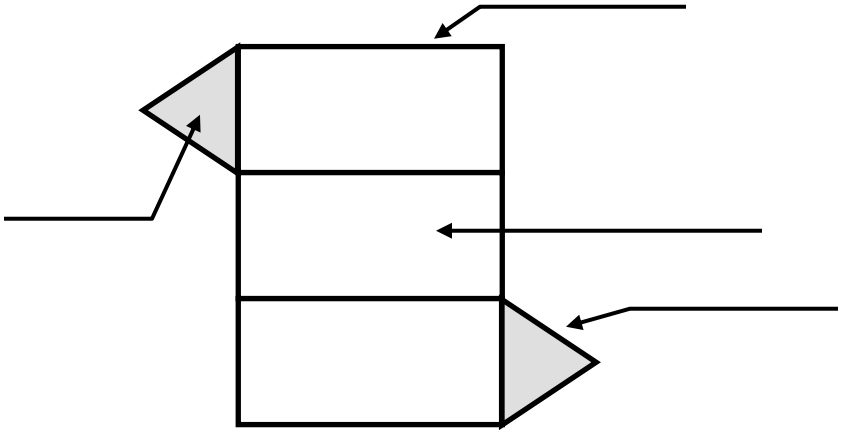
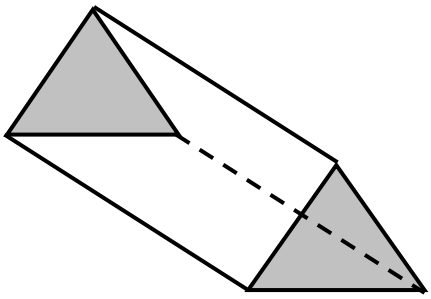
TOPIC 13-2: NETS

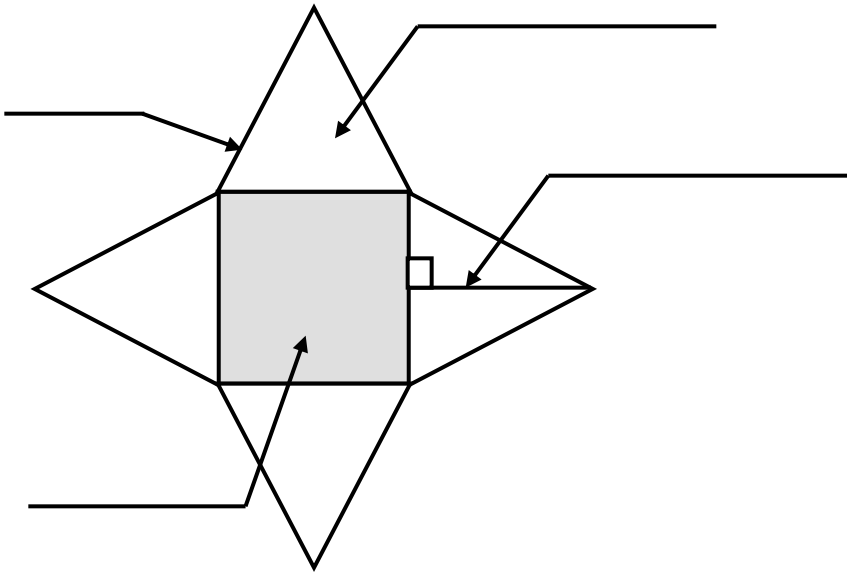
TERM:	DEFINITION	
Net	A two dimensional drawing of a three dimensional object	
Face	The polygons that form a three dimensional object.	
Base	Two congruent, parallel faces	
Base edges	The segments that form the bases.	
Lateral edges	The segments that connect the bases. They are part of the lateral faces.	
Vertex	The corners of the three dimensional object.	

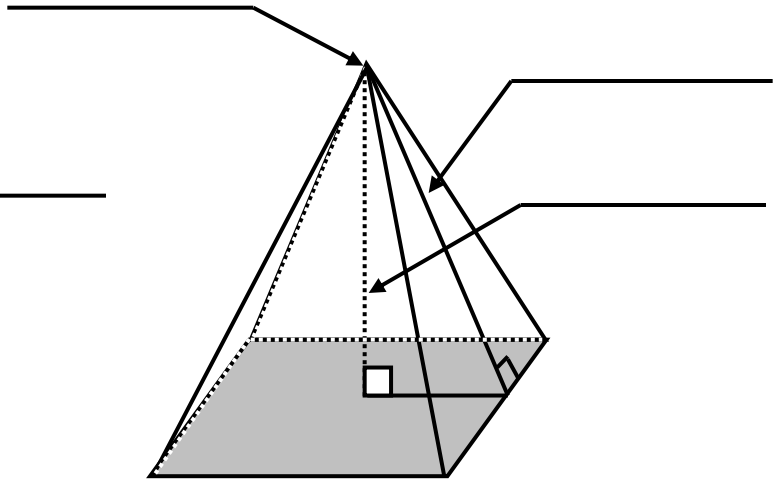
Play video while defining all the parts and differences among polyhedrons.

When a 3-D figure is unfolded a NET of that figure is formed. A NET is a 2-D representation of a 3-D figure. Below you will see two nets – label the parts.

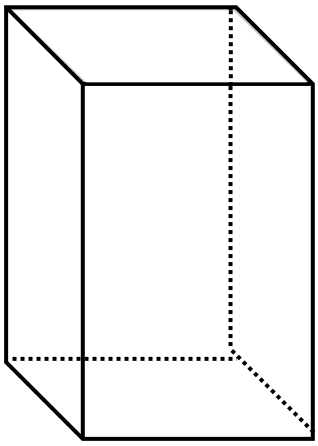


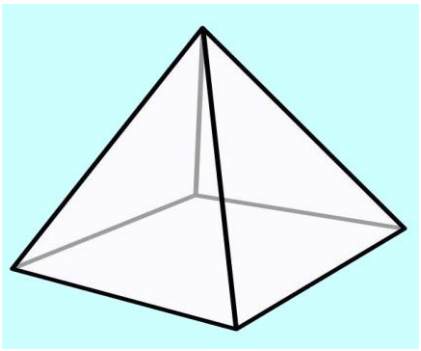






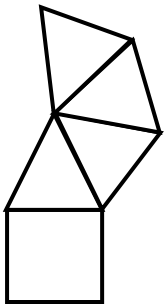
Prisms:	**Pyramids:**
Named by its _____	**Named by its _____**
# lateral faces = _____	**# lateral faces = _____**
_____ base(s)	**_____ base(s)**
Lateral face is a _____	**Lateral face is a _____**
Height is _____	**Height is _____**
Slant height? Yes or no	**Slant height? Yes or no**





EXAMPLE 1: Determine whether each "net" will form a pyramid when folded to make a solid. If yes, name it.

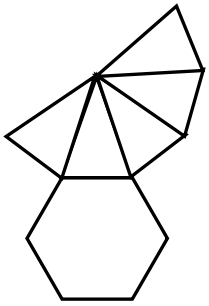
a)



YES or NO?

Name it:

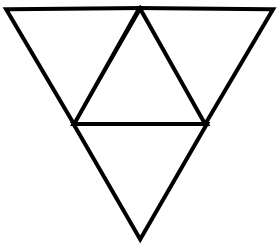
b)



YES or NO?

Name it:

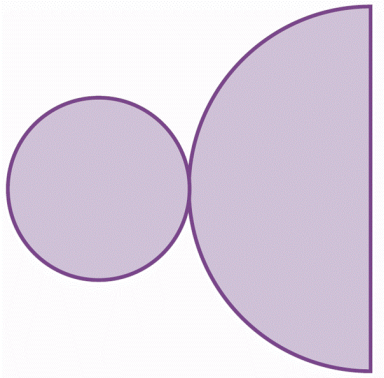
c)



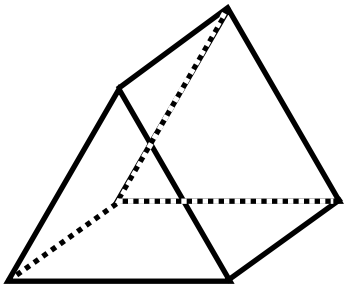
YES or NO?

Name it:

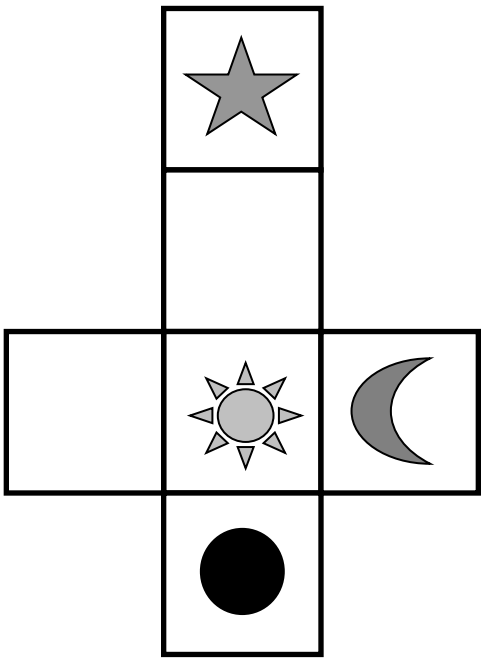
EXAMPLE 2: If the net below is folded, what type of figure would be formed?

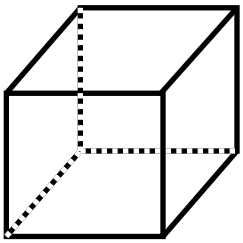


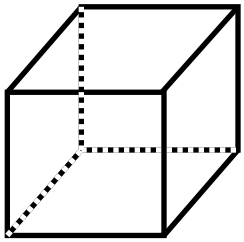
EXAMPLE 3: Draw two different nets that will fold to the 3-dimensional figure below.



EXAMPLE 4: Draw the solid that would be formed from the net below, from two different perspectives.

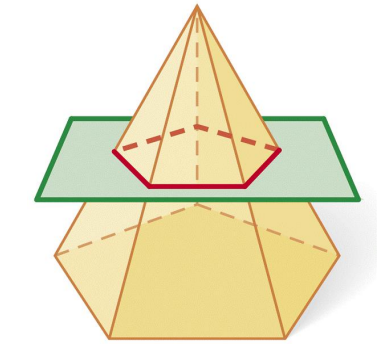


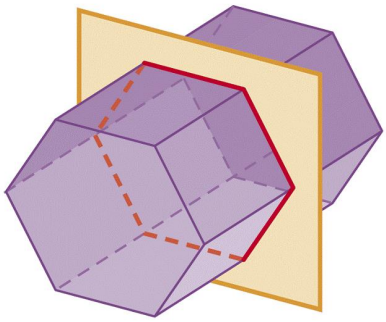


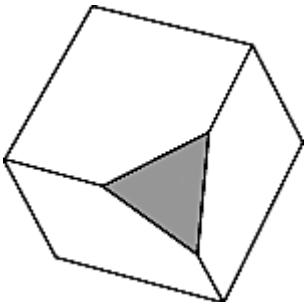


Determine if a cube can be formed from the following NETS:
(http://illuminations.nctm.org/ActivityDetail.aspx?ID=84)

A <u>CROSS SECTION</u> is the intersection of a three-dimensional figure and a plane. It is the face you get when you make one slice through an object.

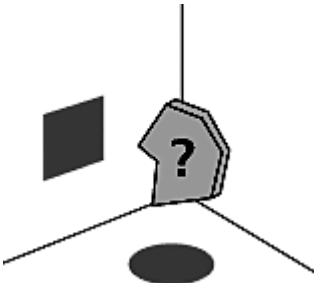


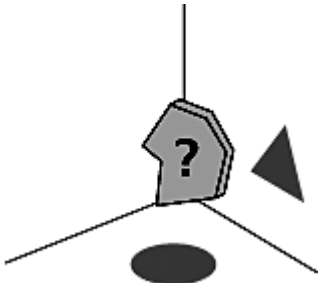


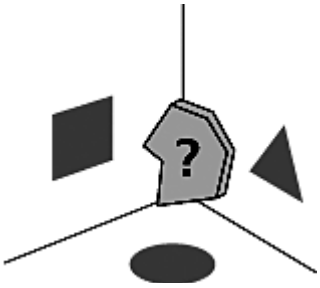


The cross section cannot contain any piece of the original face - it all comes from "inside" the solid. In this picture, only the gray piece is a cross section.

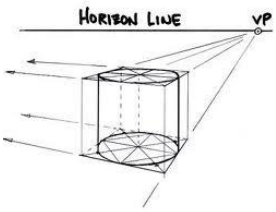
<u>Shadows:</u> Suppose the object casts a shadow on the floor and other shadows on the wall. Can you name the object?

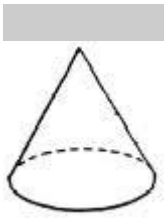


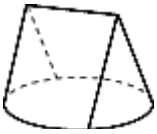




ANSWERS:
Picture #1. A right square cylinder, i.e., a cylinder whose height equals the diameter of its base.
Picture #2. A right circular cone.
Picture #3. It's a solid that looks like a "triangular" filter for a coffee maker, or the head (not handle) of a flathead screwdriver.







What shapes can be created by one slice through a cube?
http://www.learner.org/courses/learningmath/geometry/session9/part_c/index.html

Cross Section Flyer: http://www.shodor.org/interactivate/activities/CrossSectionFlyer/
With a partner and a computer, complete