Geometry B Live Lesson Class

U6L1 – Space Figures and Cross Sections

(Chapter 11-1 in textbook)

Agenda

1. Review topics and problems from U6L1 – Space Figures and Cross Sections.

2. Use the 2-column note system to take better notes in math class. Bring your math notebook and pen or pencil to each math LiveLesson class.

2-Column Notes Template

1. Announcements/To Do's	1. Write down important details.
2. School-Wide Learner Outcomes	2. What are you going to work on this week?
3. LL Objectives	
4. Vocabulary words	4. Definitions (fill in as we go)
5. Problems	5. Steps to solving problems
6. Summary (End of class)	6. 1 or 2 sentences about the LL class.

Reminders and To – Do's

Information	What to do
1. Complete 1 math lesson per day.	1. Go to your Planner in Connexus to find the math lesson for the day
2. Check your WebMail every day	2. Go to Connexus to find WebMail
3. Be prepared to spend 4 - 6 hours per day on schoolwork.	3. Complete lessons for the day from your Planner. Do not get behind on lessons.
4. Remind your Learning Coach to take daily attendance	4. Have your Learning Coach log into Connexus daily.

Reminders and To – Do's

Information	What to do
5. Go to the Message Board first for information about our math class.	
6. Contact Mr. Elizondo for math questions. Remember: You need at least 2 phone calls with Mr. Elizondo per semester.	6. Call (559) 549 - 3244 and leave a voicemail if call is not answered. Make an appointment at: https://elizondo.youcanbook.me Send a WebMail

U6L1 – California Common Core State Standards

- HSG-GMD.B.4: Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.

U6L1 – Objectives

- To recognize polyhedra and their parts
- To visualize cross sections of space figures

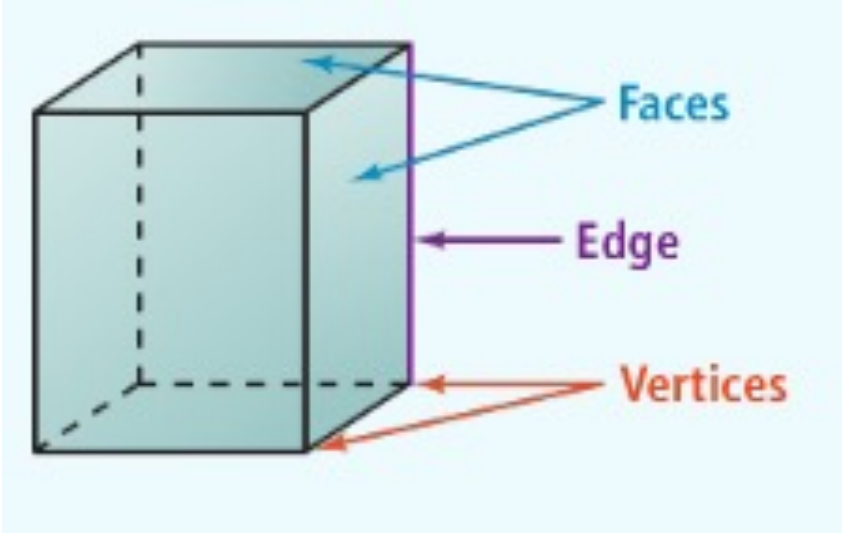
U6L1 – Vocabulary

- polyhedra
- face
- edge
- vertex
- cross section

U6L1 – Space Figures and Cross Sections

Space Figures

- **Polyhedron**: a three-dimensional figure, whose surfaces are polygons
- **Face**: a polygon that makes up the polyhedron
- **Edge**: segment that is formed by the intersection of two faces
- **Vertex**: a point where three or more edges intersect



U6L1 – Space Figures and Cross Sections

Euler's Formula $F + V = E + 2$

The sum of the number of faces (F) and vertices (V) of a polyhedron is two more than the number of its edges. (E).

Given a solid with 12 edges and 6 vertices, how many faces does it have?

$$F + 6 = 12 + 2$$

$$F + 6 = 14$$

$$\boldsymbol{F = 8}$$

U6L1 – Space Figures and Cross Sections

Euler's Formula F + V = E + 2

The sum of the number of faces (F) and vertices (V) of a polyhedron is two more than the number of its edges. (E).

$faces: 20$

$edges:$___

$vertices: 12$

$20 + 12 = E + 2$

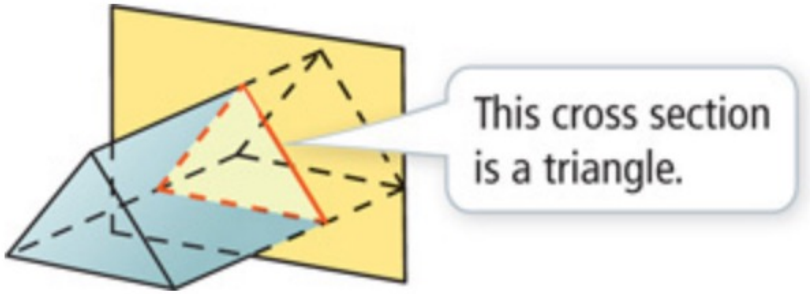
$32 = E + 2$

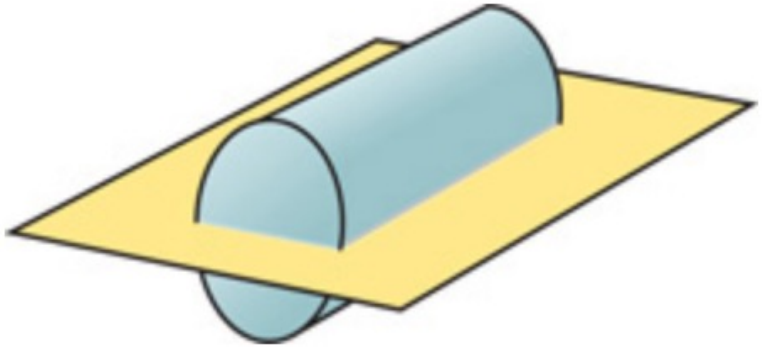
$\boldsymbol{E = 30}$

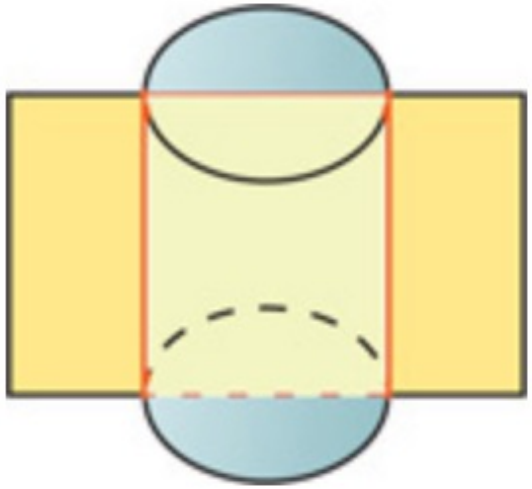
U6L1 – Space Figures and Cross Sections

Cross Sections

A **cross section** is the intersection of a solid and a plane. It is like a very thin slice of the solid.



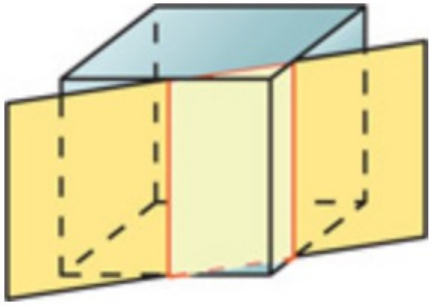




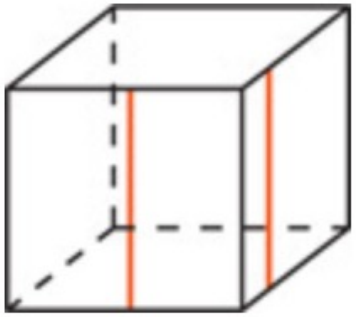
U6L1 – Space Figures and Cross Sections

Cross Sections

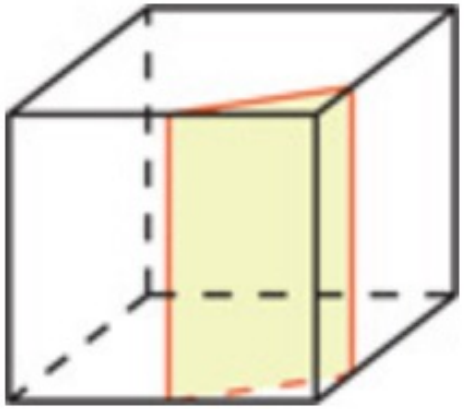
Step 1: Visualize a vertical plane intersecting the vertical faces in parallel segments.



Step 2: Draw the parallel segments.



Step 3: Join their endpoints. Shade the cross section.



Questions?

- Check the Message Board first
- Send a WebMail
- You can also make an appointment at https://elizondo.youcanbook.me
- You can also call me at (559) 549-3244. If I'm not available to answer your call, please leave a voicemail with your full name and phone number.