

Geometry B Live Lesson Class

U6L3 – Surface Areas of Pyramids and Cones

(Chapter 11-3 in textbook)



Agenda



1. Review topics and problems from U6L3 – Surface Areas of Pyramids and Cones.

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
2. School-Wide Learner Outcomes
3. LL Objectives
4. Vocabulary words
5. Problems
6. Summary (End of class)

1. Write down important details.
2. What are you going to work on this week?
- 3.
4. Definitions (fill in as we go)
5. Steps to solving problems
6. 1 or 2 sentences about the LL class.

Reminders and To – Do's



Information

1. Complete 1 math lesson per day.
2. Check your WebMail every day
3. Be prepared to spend 4 - 6 hours per day on schoolwork.
4. Remind your Learning Coach to take daily attendance

What to do

1. Go to your Planner in Connexus to find the math lesson for the day
2. Go to Connexus to find WebMail
3. Complete lessons for the day from your Planner. Do not get behind on lessons.
4. Have your Learning Coach log into Connexus daily.

Reminders and To – Do's



Information

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.

What to do

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

U6L3 – California Common Core State Standards



- HSG-MG.A.1: Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).

U6L3 – Objectives



- Find the surface area of a pyramid and a cone

U6L3 – Vocabulary

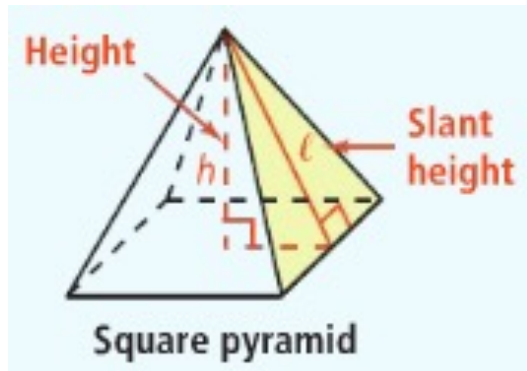


- pyramid (base, lateral face, vertex, altitude, height, slant height, lateral area, surface area)
- regular pyramid
- cone (base, altitude, vertex, height, slant height, lateral area, surface area)
- right cone

U6L3 – Surface Areas of Pyramids and Cones



Pyramids



Shape	Lateral Area	Surface Area
Pyramid	$LA = \frac{1}{2}pl$	$SA = LA + B$

The lateral area of a square pyramid is 204 cm^2 . The length of each side of the square base is 8 cm . What is the slant height of the pyramid?

$$\text{side of the base} = 8 \text{ cm}$$

$$\text{perimeter } (p) \text{ of the base} = 32 \text{ cm}$$

$$LA = \frac{1}{2}pl$$

$$204 = \frac{1}{2}(32)l$$

$$204 = 16 \cdot l$$

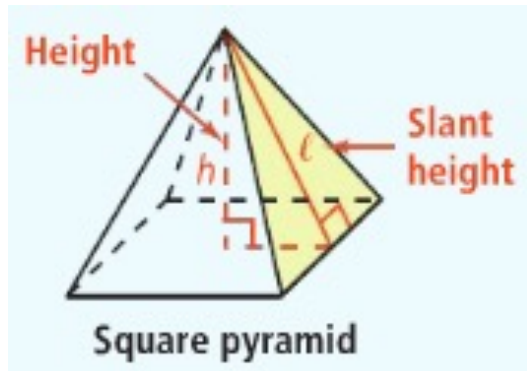
$$12.75 \text{ cm} = l$$

the slant height (l) is 12.75 cm

U6L3 – Surface Areas of Pyramids and Cones



Pyramids



Shape	Lateral Area	Surface Area
Pyramid	$LA = \frac{1}{2}pl$	$SA = LA + B$

The lateral area of a square pyramid is 204 cm^2 . The length of each side of the square base is 8 cm . What is the **surface area** of the pyramid?

$$LA = 204 \text{ cm}^2$$

$$SA = 204 \text{ cm}^2 + \text{Area of Base (B)}$$

$$SA = 204 \text{ cm}^2 + (8 \text{ cm})^2$$

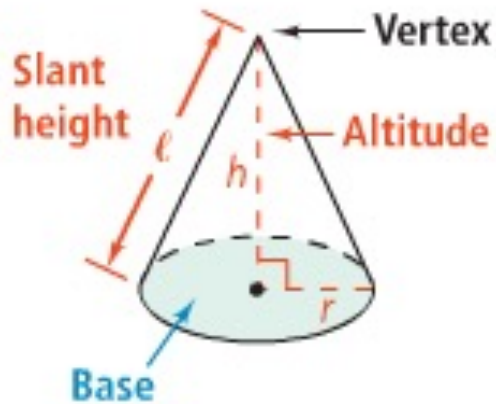
$$SA = 204 \text{ cm}^2 + 64 \text{ cm}^2$$

$$SA = 268 \text{ cm}^2$$

U6L3 – Surface Areas of Pyramids and Cones

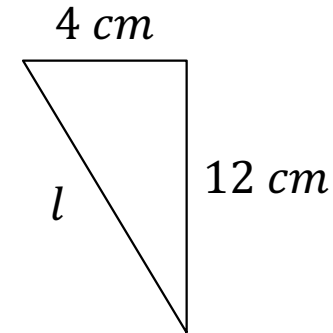
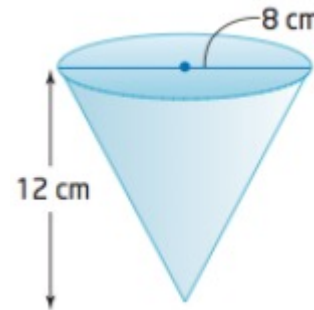


Cones



Shape	Lateral Area	Surface Area
Cone	$LA = \pi r l$	$SA = LA + B$

A cone-shaped paper cup has a diameter of 8 cm and a height of 12 cm. **How much paper, rounded to the nearest tenth, is needed to make the cup?**



$$4^2 + 12^2 = l^2$$

$$160 = l^2$$

$$12.6 = l$$

$$LA = \pi r l$$

$$LA = \pi(4\text{cm})(12.6\text{cm})$$

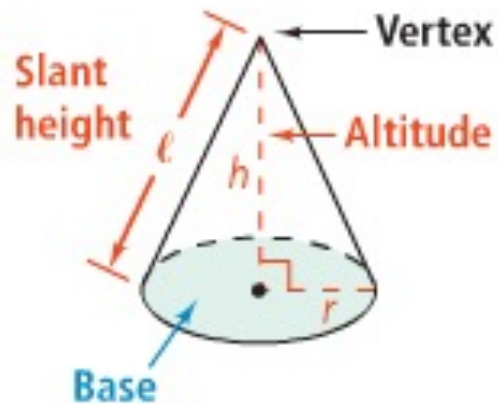
$$LA = 50.4\pi \text{ cm}^2$$

$$LA = 158.3 \text{ cm}^2$$

U6L3 – Surface Areas of Pyramids and Cones

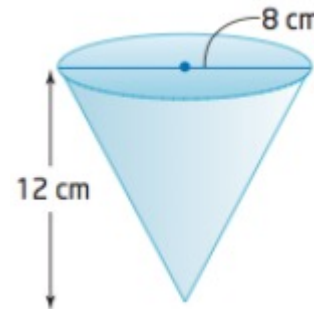


Cones



Shape	Lateral Area	Surface Area
Cone	$LA = \pi r l$	$SA = LA + B$

A cone-shaped paper cup has a diameter of 8 cm and a height of 12 cm. **What is the surface area of the cone?**



$$LA = 158.3 \text{ cm}^2$$

$$SA = LA + \text{Area of base (B)}$$

$$SA = 158.3 \text{ cm}^2 + \pi r^2$$

$$SA = 158.3 \text{ cm}^2 + \pi(4 \text{ cm})^2$$

$$SA = 158.3 \text{ cm}^2 + 16\pi \text{ cm}^2$$

$$SA = 158.3 \text{ cm}^2 + 50.2 \text{ cm}^2$$

$$SA = 208.5 \text{ cm}^2$$

U6L3 – Surface Area Formulas



Shape	Lateral Area	Surface Area
Prism	$LA = ph$	$SA = LA + 2B$
Cylinder	$LA = 2\pi rh$	$SA = LA + 2\pi r^2$
Pyramid	$LA = \frac{1}{2}pl$	$SA = LA + B$
Cone	$LA = \pi rl$	$SA = LA + B$

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.