

2022 High School Geometry Volume of a Pyramid and a Cone (Big Idea Section 11.7)

Lesson 064 | Geometry | Pyramid volume and surface area

https://www.youtube.com/watch?v=N7mdPY_HUq0

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

A square pyramid has base side 4 and height 10. Find its volume, slant height, and lateral area.

02

A square pyramid has base side 10 and height 2. Find its volume, slant height, and lateral area.

03

A square pyramid has base side 16 and height 5. Find its volume, slant height, and lateral area.

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04

A square pyramid has base side 22 and height 7. Find its volume, slant height, and lateral area.

05

A square pyramid has base side 6 and height 6. Find its volume, slant height, and lateral area.

06

A square pyramid has base side 10 and height 4. Find its volume, slant height, and lateral area.

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01

A square pyramid has base side 4 and height 10. Find its volume, slant height, and lateral area.

Base area=16; $V=(1/3)Bh=160/3$. Slant height $\sqrt{4+100}=\sqrt{104}$. Lateral area= $(1/2)(\text{base perimeter})(\text{slant height})=8\sqrt{104}$.

02

A square pyramid has base side 10 and height 2. Find its volume, slant height, and lateral area.

Base area=100; $V=(1/3)Bh=200/3$. Slant height $\sqrt{25+4}=\sqrt{29}$. Lateral area= $(1/2)(\text{base perimeter})(\text{slant height})=20\sqrt{29}$.

03

A square pyramid has base side 16 and height 5. Find its volume, slant height, and lateral area.

Base area=256; $V=(1/3)Bh=1280/3$. Slant height $\sqrt{64+25}=\sqrt{89}$. Lateral area= $(1/2)(\text{base perimeter})(\text{slant height})=32\sqrt{89}$.

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04

A square pyramid has base side 22 and height 7. Find its volume, slant height, and lateral area.

Base area=484; $V=(1/3)Bh=3388/3$. Slant height $\sqrt{(121+49)}=\sqrt{170}$. Lateral area= $(1/2)(\text{base perimeter})(\text{slant height})=44\sqrt{170}$.

05

A square pyramid has base side 6 and height 6. Find its volume, slant height, and lateral area.

Base area=36; $V=(1/3)Bh=72$. Slant height $\sqrt{(9+36)}=\sqrt{45}$. Lateral area= $(1/2)(\text{base perimeter})(\text{slant height})=12\sqrt{45}$.

06

A square pyramid has base side 10 and height 4. Find its volume, slant height, and lateral area.

Base area=100; $V=(1/3)Bh=400/3$. Slant height $\sqrt{(25+16)}=\sqrt{41}$. Lateral area= $(1/2)(\text{base perimeter})(\text{slant height})=20\sqrt{41}$.