

The Secret of Finding the Surface Area and Lateral Area of a Pyramid (Geometry 11.4 Part II)

Lesson 068 | Geometry | Pyramid volume and surface area

<https://www.youtube.com/watch?v=RNwv5DhPH2I>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

A square pyramid has base side 22 and height 4. Find its volume, slant height, and lateral area.

02

A square pyramid has base side 8 and height 10. Find its volume, slant height, and lateral area.

03

A square pyramid has base side 4 and height 7. Find its volume, slant height, and lateral area.

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04

A square pyramid has base side 12 and height 5. Find its volume, slant height, and lateral area.

05

A square pyramid has base side 18 and height 12. Find its volume, slant height, and lateral area.

06

A square pyramid has base side 4 and height 12. Find its volume, slant height, and lateral area.

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01

A square pyramid has base side 22 and height 4. Find its volume, slant height, and lateral area.

Base area=484; $V=(1/3)Bh=1936/3$. Slant height $\sqrt{(121+16)}=\sqrt{137}$. Lateral area= $(1/2)(\text{base perimeter})(\text{slant height})=44\sqrt{137}$.

02

A square pyramid has base side 8 and height 10. Find its volume, slant height, and lateral area.

Base area=64; $V=(1/3)Bh=640/3$. Slant height $\sqrt{(16+100)}=\sqrt{116}$. Lateral area= $(1/2)(\text{base perimeter})(\text{slant height})=16\sqrt{116}$.

03

A square pyramid has base side 4 and height 7. Find its volume, slant height, and lateral area.

Base area=16; $V=(1/3)Bh=112/3$. Slant height $\sqrt{(4+49)}=\sqrt{53}$. Lateral area= $(1/2)(\text{base perimeter})(\text{slant height})=8\sqrt{53}$.

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04

A square pyramid has base side 12 and height 5. Find its volume, slant height, and lateral area.

Base area=144; $V=(1/3)Bh=240$. Slant height $\sqrt{(36+25)}=\sqrt{61}$. Lateral area= $(1/2)(\text{base perimeter})(\text{slant height})=24\sqrt{61}$.

05

A square pyramid has base side 18 and height 12. Find its volume, slant height, and lateral area.

Base area=324; $V=(1/3)Bh=1296$. Slant height $\sqrt{(81+144)}=\sqrt{225}$. Lateral area= $(1/2)(\text{base perimeter})(\text{slant height})=36\sqrt{225}$.

06

A square pyramid has base side 4 and height 12. Find its volume, slant height, and lateral area.

Base area=16; $V=(1/3)Bh=64$. Slant height $\sqrt{(4+144)}=\sqrt{148}$. Lateral area= $(1/2)(\text{base perimeter})(\text{slant height})=8\sqrt{148}$.