Watch. Practice. Understand. | Lesson 068

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

Watch the matching video: https://www.youtube.com/watch?v=RNwv5DhPH2I

Practice focus: Volume and surface area

Original extra practice matched to the listed lesson topic.

Name: _____ Date: _____ Show your reasoning and check units.

01 A rectangular prism measures 3 by 4 by 5. Find volume and total surface area.

02 A cylinder has radius 3 and height 8. Find its volume and lateral area.

03 A cone has radius 3, height 4 and slant height 5. Find volume and total surface area.

04 A square pyramid has base side 6, height 4 and slant height 5. Find volume and total surface area.

Worked answers | Lesson 068

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01 A rectangular prism measures 3 by 4 by 5. Find volume and total surface area.

$V = 3 \cdot 4 \cdot 5 = 60$; $SA = 2(12 + 15 + 20) = 94$.

02 A cylinder has radius 3 and height 8. Find its volume and lateral area.

$V = \pi r^2 h = 72\pi$; lateral area $= 2\pi rh = 48\pi$.

03 A cone has radius 3, height 4 and slant height 5. Find volume and total surface area.

$V = \pi r^2 h/3 = 12\pi$. Total area $= \pi r^2 + \pi rl = 9\pi + 15\pi = 24\pi$.

04 A square pyramid has base side 6, height 4 and slant height 5. Find volume and total surface area.

$V = (1/3)(36)(4) = 48$. Lateral area $= (1/2)(24)(5) = 60$; total $= 96$.