

Watch. Practice. Understand. | Lesson 065

2021 High School Geometry Volume of Prisms and Cylinder (Big Idea Geometry11 7, 11 ...

Watch the matching video: <https://www.youtube.com/watch?v=ysPZDLtOHhk>

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 065

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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.

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

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

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

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

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