

## Watch. Practice. Understand. | Lesson 064

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

Watch the matching video: [https://www.youtube.com/watch?v=N7mdPY\\_HUq0](https://www.youtube.com/watch?v=N7mdPY_HUq0)

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.

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

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

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

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## Worked answers | Lesson 064

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Practice focus: Volume and surface area

Original extra practice matched to the listed lesson topic.

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

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

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

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

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

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

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

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