

## Practice A

### Volume of Prisms and Cylinders

Write each formula.

1. volume of a cube with edge length  $s$
2. volume of a prism with base area  $B$  and height  $h$
3. volume of a cylinder with radius  $r$  and height  $h$
4. volume of a right rectangular prism with length  $\ell$ , width  $w$ , and height  $h$

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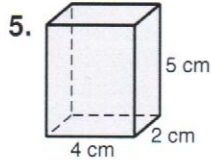


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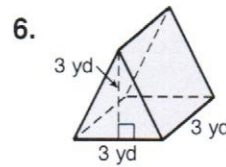


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Find the volume of each prism. Round to the nearest tenth if necessary.



the right rectangular prism



the triangular prism

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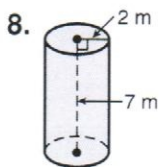


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7. Laetitia needs to store 8 boxes while she is moving. Each box is a cube with edge length 3 feet. A storage facility charges \$0.75 for every cubic foot of storage per month. Find the amount of money Laetitia will pay to store her boxes for one month.

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Find the volume of each cylinder. Round to the nearest tenth if necessary.



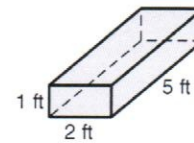
9. a cylinder with diameter 20 in. and height 2 in.

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Complete Exercises 10–12 to describe the effect on the volume of multiplying each dimension of a prism by 3.

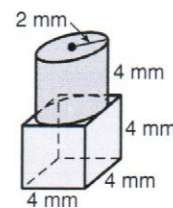


10. Find the volume of the prism.
11. Find the volume of the prism after each dimension is multiplied by 3.
12. Describe the effect on the volume of multiplying each dimension of a prism by 3.

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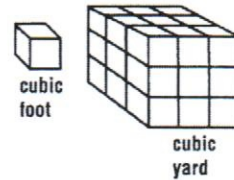
13. Find the volume of the composite figure. Round to the nearest tenth.

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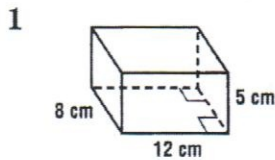
### Volume of Prisms and Cylinders

Volume is measured in cubic units such as cubic yards or cubic feet. A cubic foot is equivalent to a cube that is 1 foot long on each side. A cubic yard is equivalent to 27 cubic feet.



Volume of a Right Prism	If a right prism has a volume of $V$ cubic units, a base of $B$ square units, and a height of $h$ units, then $V = Bh$ .
Volume of a Right Cylinder	If a right cylinder has a volume of $V$ cubic units, a height of $h$ units, and a radius of $r$ units, then $V = \pi r^2 h$ .

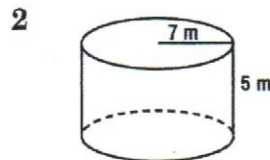
**Examples:** Find the volume of each solid.



$$V = Bh$$

$$V = (8)(12)(5)$$

$$V = 480 \text{ cm}^3$$



$$V = \pi r^2 h$$

$$V = \pi(7)^2(5)$$

$$V = 245\pi \text{ or about } 769.7 \text{ m}^3$$

**Find the volume of each right solid. Round your answers to the nearest tenth.**

