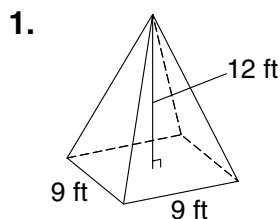
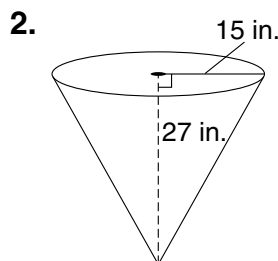
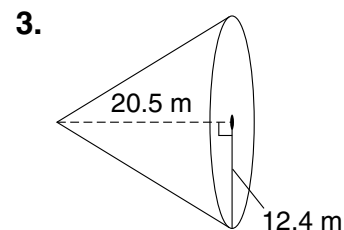


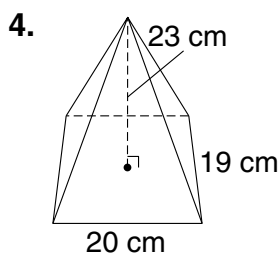
LESSON
6-7 **Practice B**
Volume of Pyramids and Cones

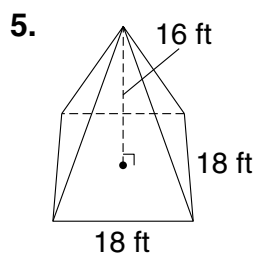
Find the volume of each figure to the nearest tenth of a unit.

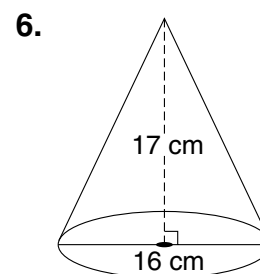








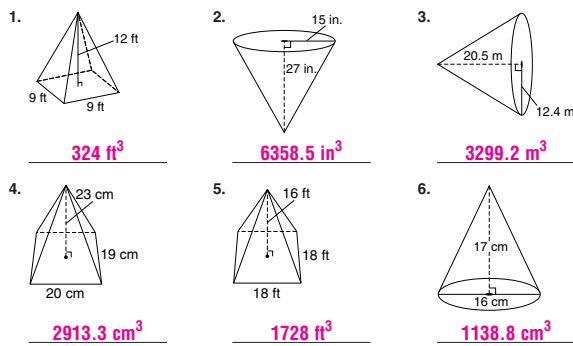




7. The base of a regular pyramid has an area of 28 in^2 . The height of the pyramid is 15 in. Find the volume.
8. The radius of a cone is 19.4 cm and its height is 24 cm. Find the volume of the cone to the nearest tenth.
9. Find the volume of a rectangular pyramid if the height is 13 m and the base sides are 12 m and 15 m.
10. A funnel has a diameter of 9 in. and is 16 in. deep. What is the volume of the funnel to the nearest tenth of a unit?
11. A square pyramid has a height 18 cm and a base that measures 12 cm on each side. Explain whether tripling the height would triple the volume of the pyramid.

LESSON Practice B
6-7 Volume of Pyramids and Cones

Find the volume of each figure to the nearest tenth of a unit.



7. The base of a regular pyramid has an area of 28 in². The height of the pyramid is 15 in. Find the volume. **140 in³**
8. The radius of a cone is 19.4 cm and its height is 24 cm. Find the volume of the cone to the nearest tenth. **9454.2 cm³**
9. Find the volume of a rectangular pyramid if the height is 13 m and the base sides are 12 m and 15 m. **780 m³**
10. A funnel has a diameter of 9 in. and is 16 in. deep. What is the volume of the funnel to the nearest tenth of a unit? **339.1 in³**
11. A square pyramid has a height 18 cm and a base that measures 12 cm on each side. Explain whether tripling the height would triple the volume of the pyramid. **Possible answer: The volume of the original pyramid is 864 cm³. The volume of the new pyramid is 2592 cm³. Therefore, if the height of the pyramid were tripled, its volume would be tripled.**

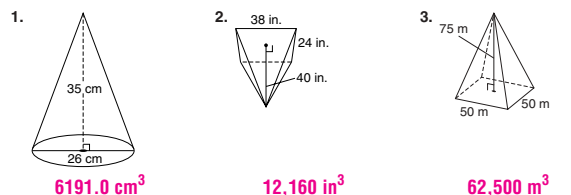
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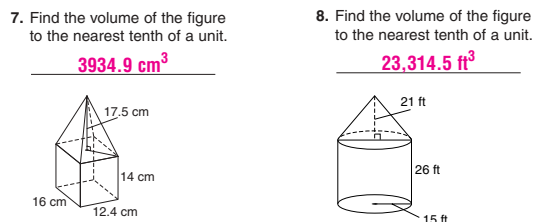
LESSON Practice C
6-7 Volume of Pyramids and Cones

Find the volume of each figure to the nearest tenth of a unit.



Find the missing measure to the nearest tenth of a unit.

4. rectangular pyramid:
base length = 15 m
base width = ?
height = 21 m
volume = 2415 m³
base width = 23 m
5. triangular pyramid:
base width = 8 cm
base height = 18 cm
height = ?
volume = 624 cm³
height = 26 cm
6. A cone has diameter of 24 ft and height of 15 ft. How many times will the volume of the cone fill a cylinder with radius of 18 ft and a height of 25 ft? Round your answer to the nearest whole number. **11 times**



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LESSON Reteach
6-7 Volume of Pyramids and Cones

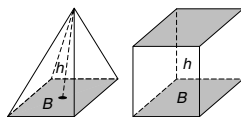
Pyramid: solid figure named for the shape of its base, which is a polygon; all other faces are triangles



Pentagonal Pyramid

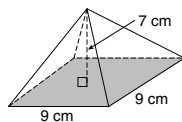
This rectangular pyramid and rectangular prism have congruent bases and congruent heights.

Volume of Pyramid = $\frac{1}{3}$ Volume of Prism
 $V = \frac{1}{3} Bh$



Complete to find the volume of each pyramid.

1. square pyramid



base is a **square**

$V = \frac{1}{3} Bh$

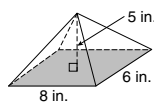
$V = \frac{1}{3} (\text{area of square}) \times h$

$V = \frac{1}{3} (9 \times 9) \times 7$

$V = \frac{1}{3} (81) \times 7$

$V = 189 \text{ cm}^3$

2. rectangular pyramid



base is a **rectangle**

$V = \frac{1}{3} Bh$

$V = \frac{1}{3} (\text{area of rectangle}) \times h$

$V = \frac{1}{3} (8 \times 6) \times 5$

$V = \frac{1}{3} (48) \times 5$

$V = 80 \text{ in}^3$

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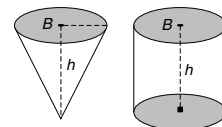
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LESSON Reteach
6-7 Volume of Pyramids and Cones (continued)

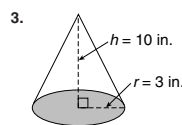
Cone: solid figure with a circular base

This cone and cylinder have congruent bases and congruent heights.

Volume of Cone = $\frac{1}{3}$ Volume of Cylinder
 $V = \frac{1}{3} Bh$



Complete to find the volume of each cone.



$V = \frac{1}{3} Bh$

$V = \frac{1}{3} (\pi r^2) h$

$V = \frac{1}{3} (\pi \times 3^2) \times 10$

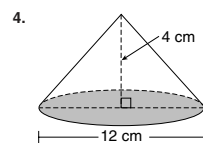
$V = \frac{1}{3} (9\pi) \times 10$

$V = 3\pi \times 10$

$V = 30\pi$

$V \approx 30 \times 3.14$

$V \approx 94.2 \text{ in}^3$



$V = \frac{1}{3} Bh$

$V = \frac{1}{3} (\pi r^2) h$

$V = \frac{1}{3} (\pi \times 6^2) \times 4$

$V = \frac{1}{3} (36\pi) \times 4$

$V = 12\pi \times 4$

$V = 48\pi$

$V \approx 48 \times 3.14$

$V \approx 150.72 \text{ cm}^3$

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