

Name _____ Hour _____

Int. Geometry

Ferrington

13-1: Volume of Prisms & Cylinders

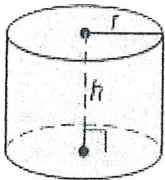
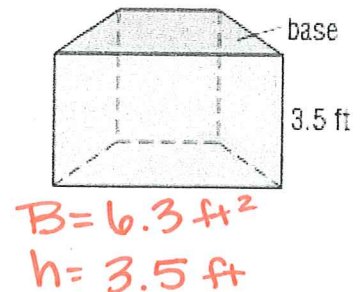
Volume is the measure of the amount of space enclosed in a three-dimensional figure.

If a prism has a volume of V cubic units, a height of h units, and each base has an area of B square units, then $V = Bh$.

Example:

Find the volume of this prism with a trapezoidal base with an area of 6.3 ft^2 .

$$\begin{aligned}V &= Bh \\V &= (6.3)(3.5) \\V &= 22.1 \text{ ft}^3\end{aligned}$$

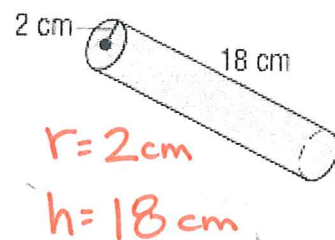


If a cylinder has a volume of V cubic units, a height of h units, and the bases have a radii of r units, then $V = \pi r^2 h$.

Example:

Find the volume of this right cylinder.

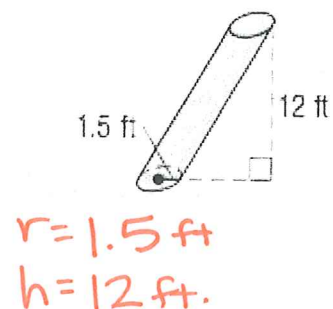
$$\begin{aligned}V &= \pi r^2 h \\V &= \pi (2^2)(18) \\V &= \pi (4)(18) = 226.1 \text{ cm}^3\end{aligned}$$



Example:

Find the volume of this oblique cylinder.

$$\begin{aligned}V &= \pi r^2 h \\V &= \pi (1.5)^2 (12) \\V &= \pi (2.25)(12) = 84.8 \text{ ft}^3\end{aligned}$$



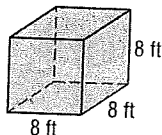
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Int. Geometry
Ferrington

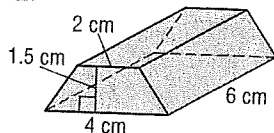
13-1 Homework:

Find the volume of the following prisms.

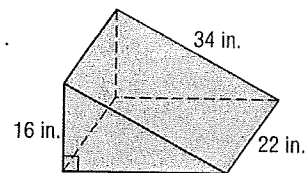
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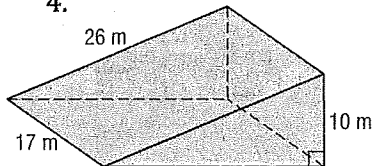
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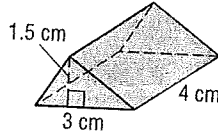
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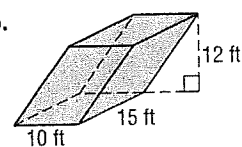
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5.

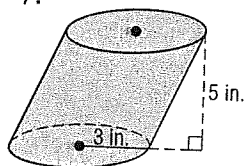


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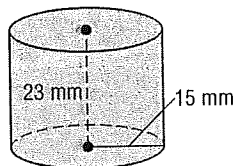


Find the volume of the following cylinders.

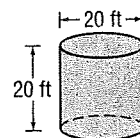
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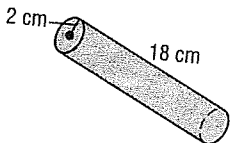
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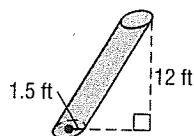
9.



10.



11.



12.

