

# Calculating the Volume of Right Prisms

To find the volume of any right prism, calculate the area of the BASE and multiply by the height.

$V = Bh$  where  $B$  is the area of the base.

1. Rectangular Prism

$A = (lw)$   
 $A = 12 \cdot 4$   
 $A = 48 \text{ m}^2$   
 $V = Bh$   
 $V = 48 \cdot 10$   
 $V = 480 \text{ m}^3$

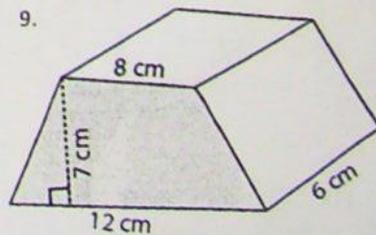
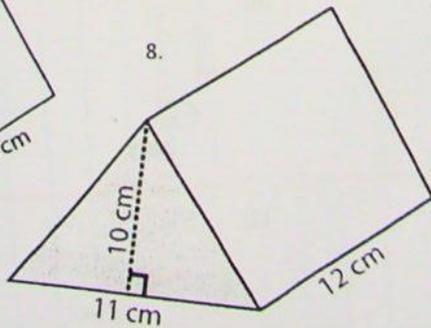
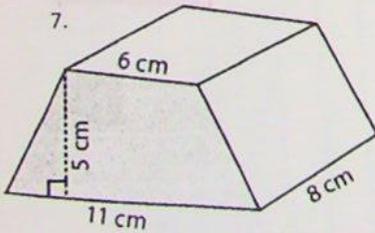
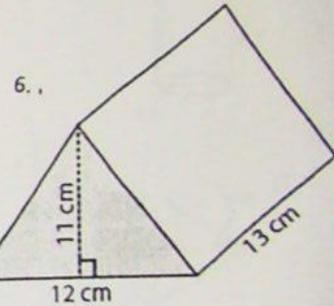
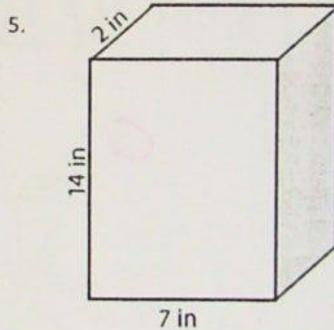
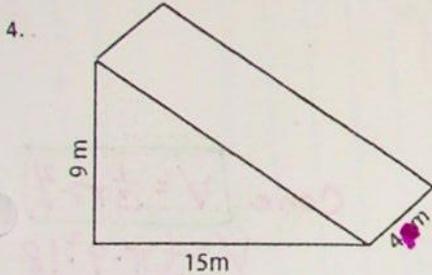
2. Triangular Prism

$A = \frac{1}{2}bh$   
 $A = \frac{1}{2} \cdot 10 \cdot 10$   
 $A = 50$   
 $V = Bh$   
 $V = 50 \cdot 13$   
 $V = 650 \text{ mm}^3$

Height of the prism

3. Trapezoidal Prism

$A = \frac{1}{2}(b_1 + b_2)h$   
 $A = \frac{1}{2}(5 + 9) \cdot 4$   
 $A = 28 \text{ cm}^2$   
 $V = Bh$   
 $V = 28 \cdot 6$   
 $V = 168 \text{ cm}^3$



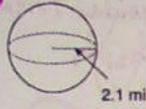
Volume Practice

$\pi \approx 3.14$

Find the volume of each figure. Round to the nearest tenth.

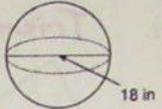
Leave your answer in terms of  $\pi$  where applicable; then round to the nearest tenth.

1)

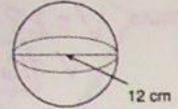


Sphere  
 $V = \frac{4}{3} \pi r^3$   
 $V = \frac{4}{3} \pi (2.1)^3$   
 $V = 12.348\pi$   
 $\approx 38.8 \text{ mi}^3$

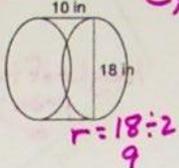
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3)

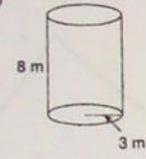


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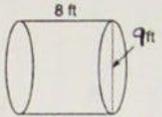


Cylinder  
 $V = \pi r^2 h$   
 $V = \pi \cdot 9^2 \cdot 10$   
 $V = 810\pi$   
 $V \approx 2543.4 \text{ in}^3$

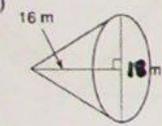
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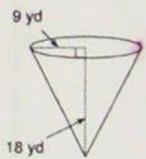
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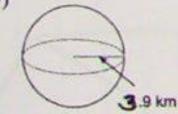


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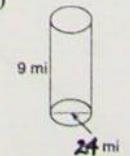


Cone  
 $V = \frac{1}{3} \pi r^2 h$   
 $V = \frac{1}{3} \pi \cdot 18^2 \cdot 9$   
 $V = 486\pi$   
 $\approx 1526.0 \text{ yd}^3$

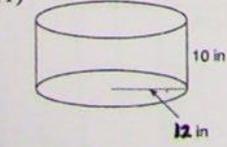
9)



10)



11)



12)

