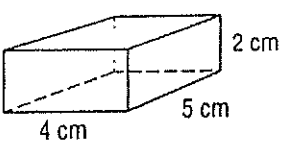


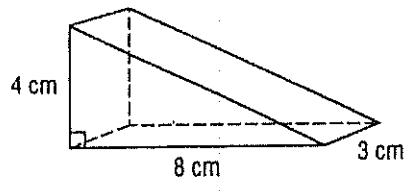
### 8.3 Volumes of Prisms

MATHPOWER™ pp. 252-253

The volume of a prism is the area of the base multiplied by the height of the prism.



Area of base  $4 \times 5 = 20$   
 Volume  $20 \times 2 = 40$   
 The volume is  $40 \text{ cm}^3$ .



Area of base  $\frac{1}{2} \times 4 \times 8 = 16$   
 Volume  $16 \times 3 = 48$   
 The volume is  $48 \text{ cm}^3$ .

Estimate, then calculate the volume of each prism.

1.  $2431 \text{ cm}^3$

2.  $2016 \text{ cm}^3$

3.  $8.4 \text{ cm}^3$

4.  $0.81 \text{ m}^3$

5.  $0.3825 \text{ m}^3$

Find the volume of each prism with a regular polygon as its base.

6.  $87.5 \text{ cm}^3$

7.  $165.24 \text{ cm}^3$

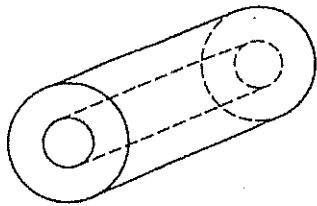
8.  $184.32 \text{ cm}^3$

9. a) An aquarium is filled to 3 cm from the top. How much water is in the aquarium if it is 75 cm long, 42 cm wide, and 48 cm high?  
 $141750 \text{ cm}^3$

b) What is the total volume of the aquarium?  
 $151200 \text{ cm}^3$

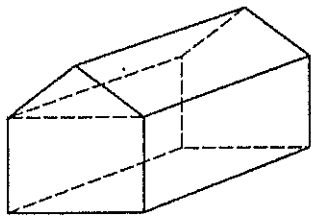
## 8.5 Surface Area and Volume of Composite Solids

MATHPOWER™ , pp. 262–263



Volume = volume of large cylinder – volume of small cylinder

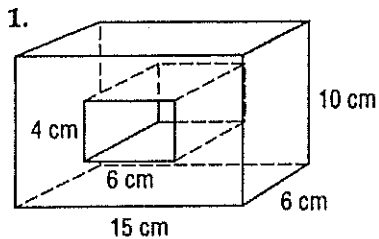
Surface area = area of large cylinder's curved face  
 + area of small cylinder's curved face  
 + area of large cylinder's circular faces  
 – area of small cylinder's circular faces



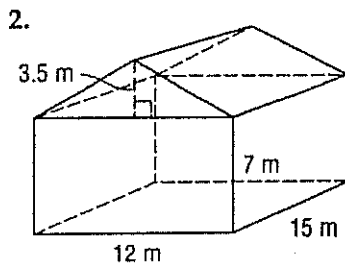
Volume = volume of rectangular prism  
 + volume of triangular prism

Surface area = area of 5 faces of rectangular prism  
 + area of 4 faces of triangular prism

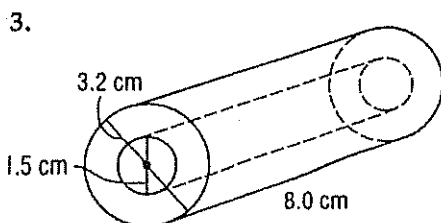
Find the volume.



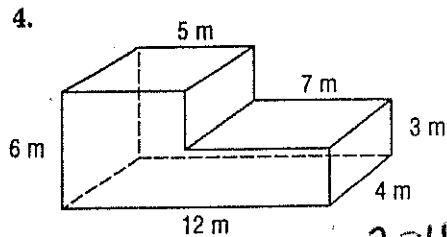
756 cm<sup>3</sup>



1575 m<sup>3</sup>

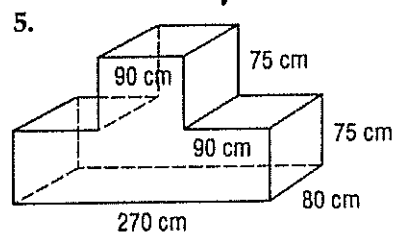


50.2 cm<sup>3</sup>

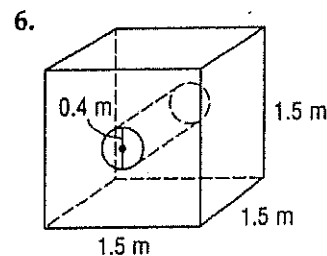


204 m<sup>3</sup>

Find the volume



2 160 000 cm<sup>3</sup>



3.2 m<sup>3</sup>