

**ASSIGNMENT: Volume of Prisms and  
Cylinders**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**You must show your work for full credit. Don't forget to include units with your answers!**

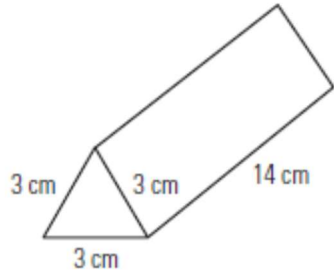
1. Find the volume of the following prisms. If rounding is necessary, give your answers to the nearest hundredth.

a) A rectangular prism with a base of 15.7 cm by 18.8 cm and a height of 12.5 cm.      volume = \_\_\_\_\_

b) The base is a square with sides of 2.75 m, and the height is 4.5 m.      volume = \_\_\_\_\_

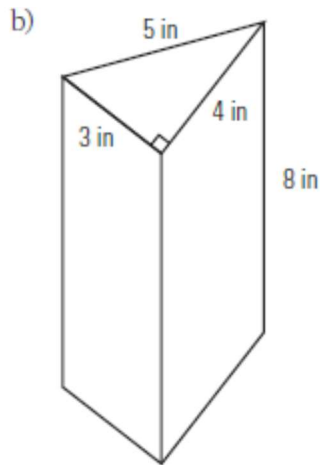
c) The base is a rectangle  $1\frac{1}{2}$  inches by  $3\frac{3}{4}$  inches, and the height is  $2\frac{1}{2}$  inches.      volume = \_\_\_\_\_

d)



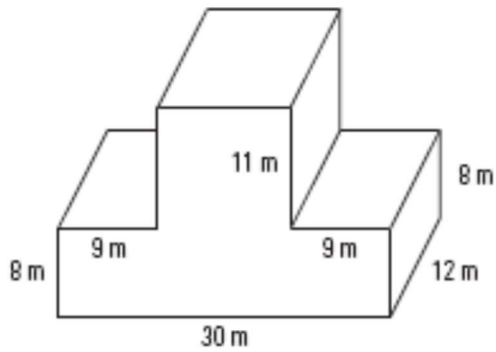
volume = \_\_\_\_\_

e)



volume = \_\_\_\_\_

f)



volume = \_\_\_\_\_

2. A rectangular prism has a base of 5.2 m by 7.8 m. Its volume is  $142 \text{ m}^3$ . What is the height of the prism? Round your answer to the nearest tenth.

height = \_\_\_\_\_

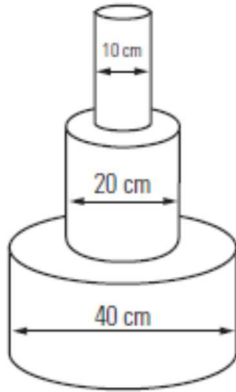
3. One rectangular prism has dimensions of 18 cm by 12 cm by 32 cm. A second prism has a base that is 14 cm by 20 cm. What must its height be if it has the same volume as the first prism? Round your answer to the nearest tenth.

height = \_\_\_\_\_

4. Calculate the volume of a cylinder with a diameter of 15 cm and a height of 0.36 m. Round your answer to the nearest hundredth.  
Hint: Use consistent units in your calculation!

volume = \_\_\_\_\_

5. Calculate the **total volume** of the stacked cylinders below. Each cylinder has a height of 20 cm. Round your answer to the nearest hundredth.



volume = \_\_\_\_\_

6. A large tin can has a volume of  $3240 \text{ cm}^3$ . If the can has a diameter of 15.56 cm, what is its height? Round your answer to the nearest tenth.

height = \_\_\_\_\_

1. a)  $3689.5 \text{ cm}^3$  b)  $34.03 \text{ m}^3$  c)  $14.06 \text{ in}^3$  or  $14\frac{1}{16} \text{ in}^3$   
d)  $54.6 \text{ cm}^3$  e)  $48 \text{ in}^3$  f)  $4464 \text{ m}^3$   
2. 3.5 m  
3. 24.7 cm  
4.  $6361.73 \text{ cm}^3$  or  $0.00636 \text{ m}^3$   
5.  $32\,986.72 \text{ cm}^3$   
6. 17.0 cm