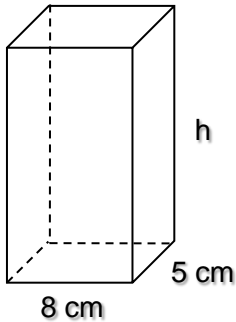


VOLUME

ANSWERS

Solve the problems.

1. A rectangular prism of volume $2,400 \text{ cm}^3$ has a rectangular base of length 8 cm and width 5 cm . Find the height (h) of the prism.

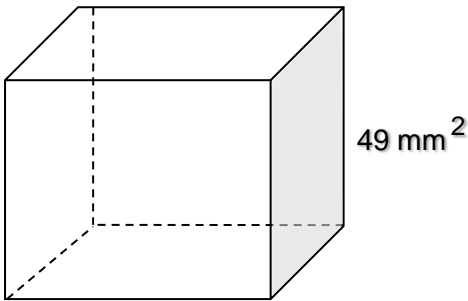


$$8 \times 5 \times h = 2,400$$

$$40h = 2,400$$

$$h = 60 \text{ cm}$$

2. The area of one square face of a cube is 49 mm^2 . Find the volume of the cube.



$$l \times w = \text{area}$$

$$l \times w = 49$$

$$7 \times 7 = 49$$

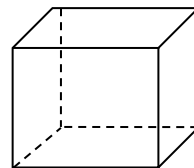
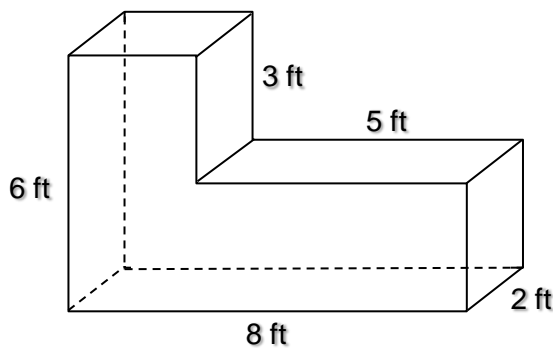
$$w \times l \times h = \text{volume}$$

$$7 \times 7 \times 7 = \text{volume}$$

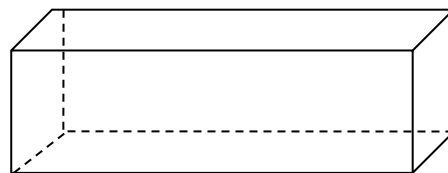
$$7 \times 7 \times 7 = 343$$

$$\text{volume} = 343 \text{ mm}^3$$

3. Find the volume of the given L-shaped rectangular figure. Helpful hint: Separate the shape into two different shapes then add them back together.



$$3 \times 2 \times 3 = 18 \text{ ft}^3$$

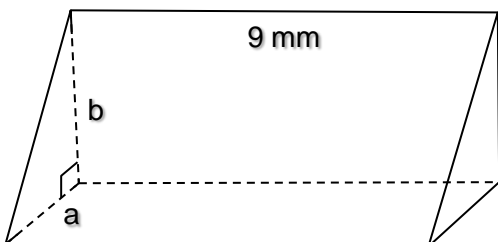


$$8 \times 2 \times 3 = 48 \text{ ft}^3$$

Total Volume:

$$18 + 48 = 66 \text{ ft}^3$$

4. The triangular base of a prism is a right triangle with legs a and b . Side b is twice as long as side a . The height (h) of the prism is 9 mm and its volume is 81 mm^3 . Find the lengths of sides a and b of the triangle.



$$\frac{1}{2} \times (a \times b) \times 9 = 81 \text{ mm}^3$$

$$\frac{1}{2} \times (a \times b) = 9$$

$$b = 2a$$

$$\frac{1}{2} \times (a \times 2a) = 9$$

$$a^2 = 9$$

$$a = 3 \text{ mm}$$

$$b = 6 \text{ mm}$$