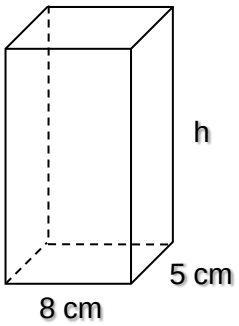
VOLUME

NAME:

Solve the problems.

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



To find the volume you can multiply:

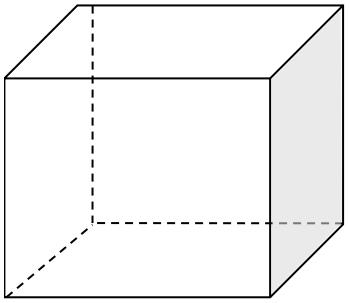
length** x **width** x **height** or **area of base** x **height

Finding the volume for this rectangular prism is like finding the area.

You can first find the area of the base and then multiply it by the height.

Find the area and then multiply it by how many you need to fill in the shape (height).

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



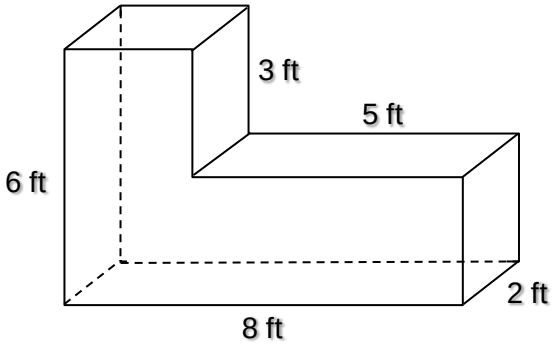
You have the area of one side. To find the volume you will have to multiply:

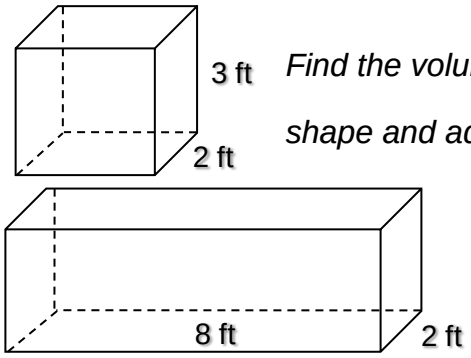
***area of side** x **how many you need to fill it in**.*

It states it is a cube which means all sides are equal.

? x ? = 49 (area of one side) *? x ? x ? = volume*

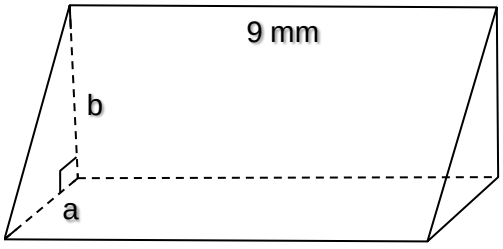
3. Find the volume of the given L-shaped rectangular figure. Helpful hint: Separate the shape into two different shapes then add them back together.





Find the volume of each shape and add them together.

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.



Volume is area of base x height. You know the height and volume so you have: area of base x 9 = 81.

So you know the area of the triangle and a triangle is half the size of a quadrilateral (square, rectangle, etc.).

So you now have 1/2 x (a x b) = area of triangle.