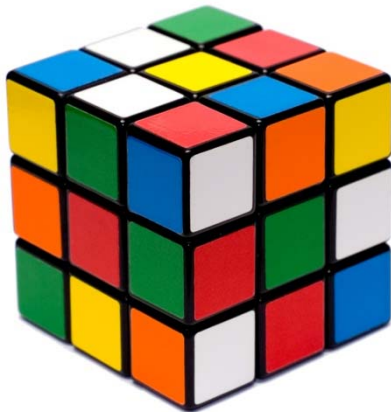
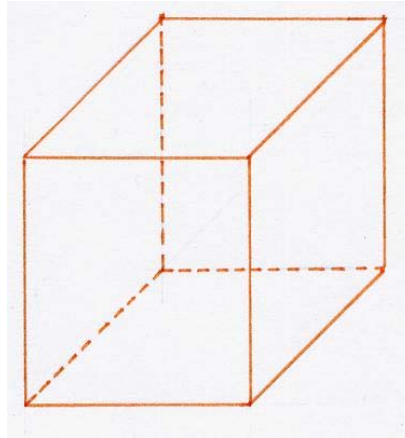


## 8.4 (pg. 376) Volume of Rectangular Prisms

A **rectangular prism** is a polyhedron with two parallel bases that are congruent rectangles.

Example of a rectangular prism

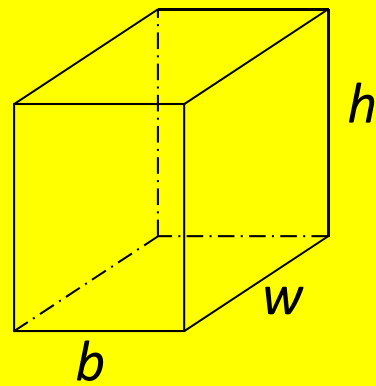


**Volume** is the amount of space inside a three-dimensional figure. Volume is measured in **cubic units**.

## Volume of a Rectangular Prism:

$$V = bwh$$

**b=base**    **w=width**    **h=height**



Example: Find the volume of the following rectangular prism.

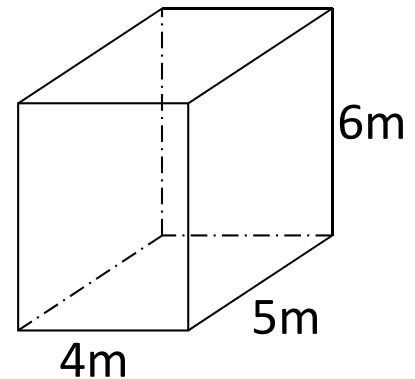
$$V = bwh$$

$$V = 4 \cdot 5 \cdot 6$$

$$V = 120$$

So the volume is  $120 \text{ m}^3$

Said 'one hundred twenty cubic meters'



Example: Find the height of the rectangular prism.

$$V = bwh$$

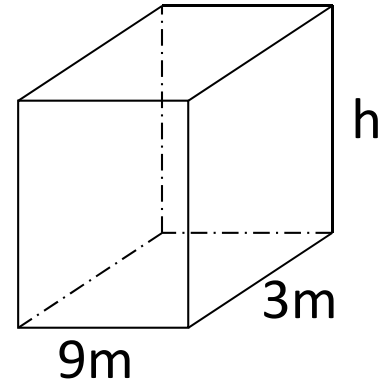
$$189 = 9 \cdot 3 \cdot h$$

$$189 = 27h$$

$$\frac{189}{27} = \frac{27h}{27}$$

$$7 = h$$

The height of the prism is 7 meters.



$$V = 189 \text{ m}^3$$

The Boeing Everett Factory, in Everett, Washington, is an airplane assembly building owned by Boeing. Located on the northeast corner of Paine Field, it is the largest building in the world by volume at 13,385,378 m<sup>3</sup> (472,370,319 cu ft) and covers 399,480 m<sup>2</sup> (98.3 acres). It is where Boeing 747s, 767s, 777s, and the new 787 Dreamliner are built.

