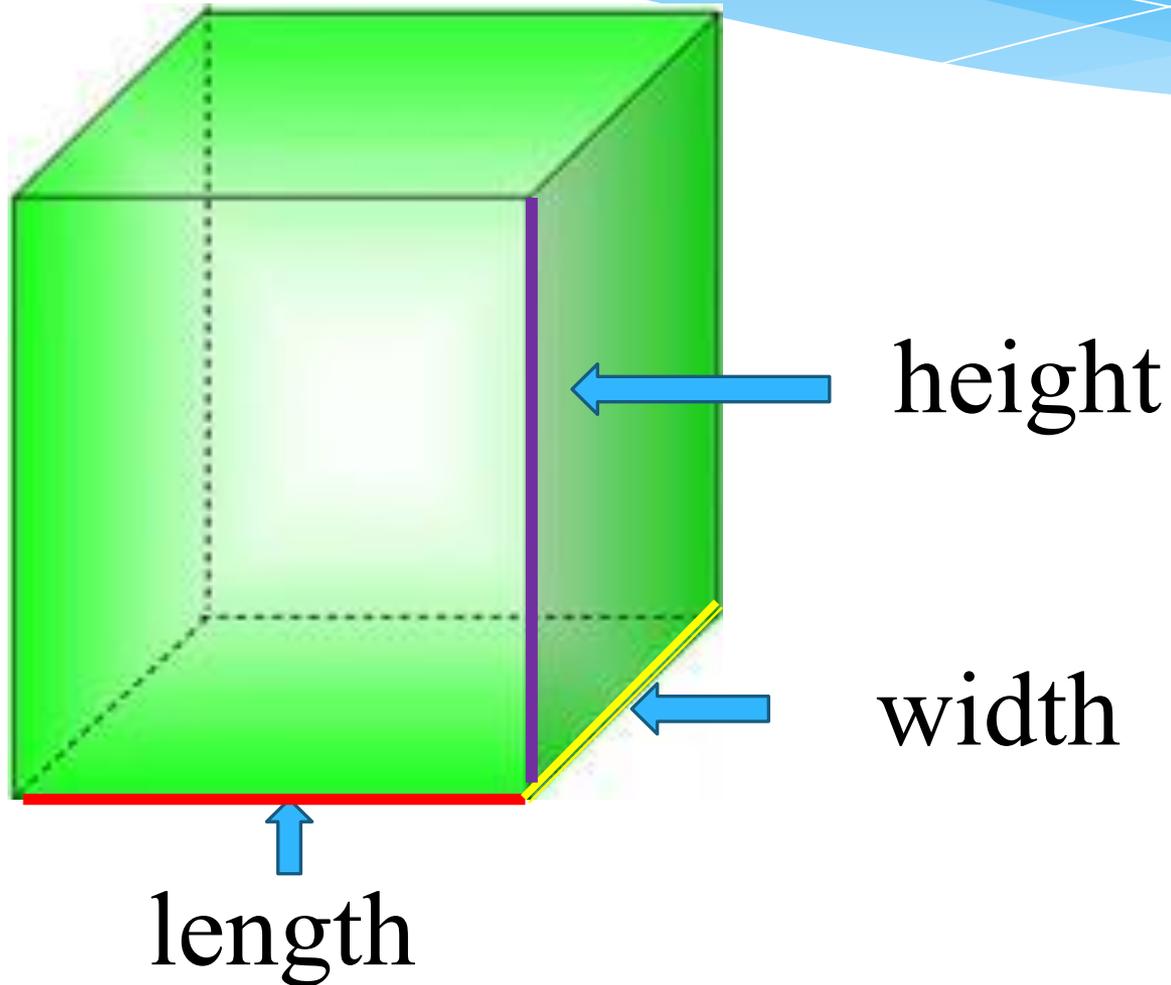# Volume of the rectangular prism
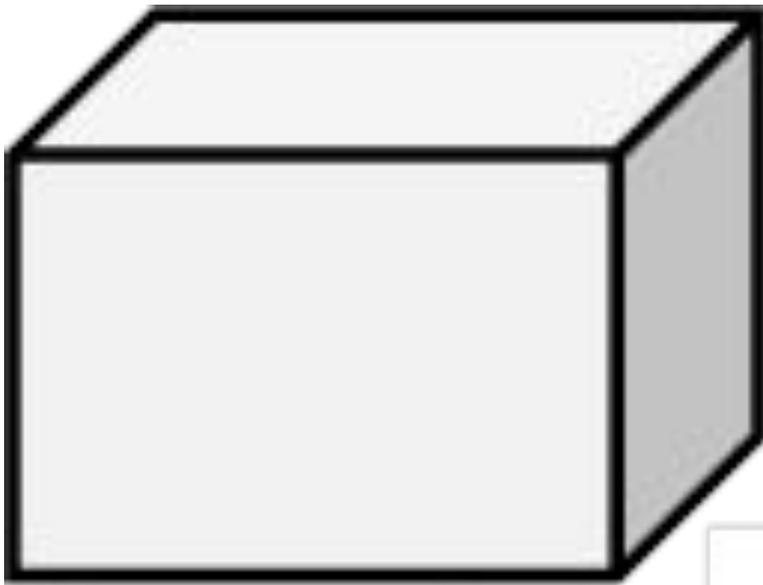
Learning outcomes for volume of rectangular prisms

1. Derive a formula for findings the volume of rectangular prism.

2. Finding volume of rectangular prisms.

3. Develop skills in solving problems on calculation the volume of rectangular prism.

Rectangular prism
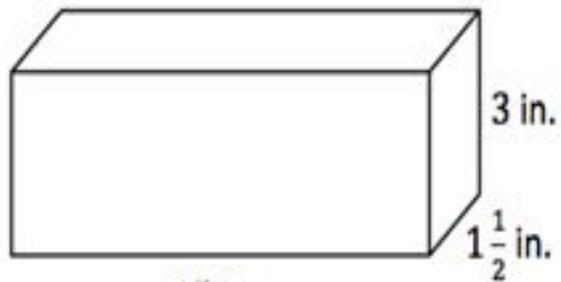
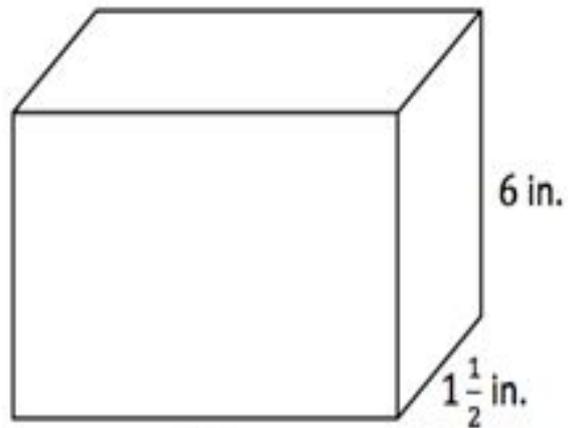# Determine the volume of the rectangular prism.

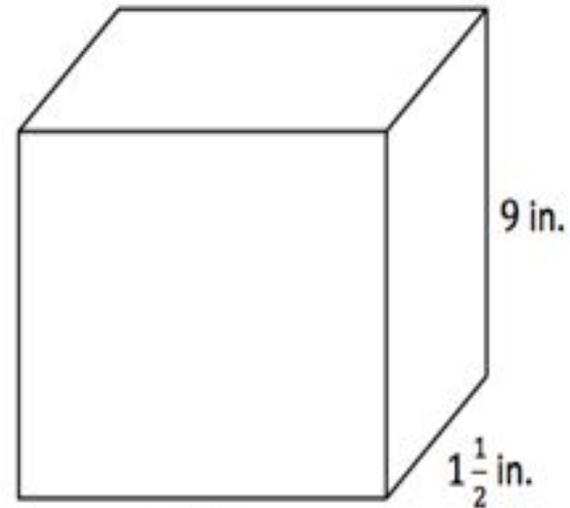$\frac{7}{8}$ m

$\frac{1}{2}$ m

$1\frac{1}{2}$ m

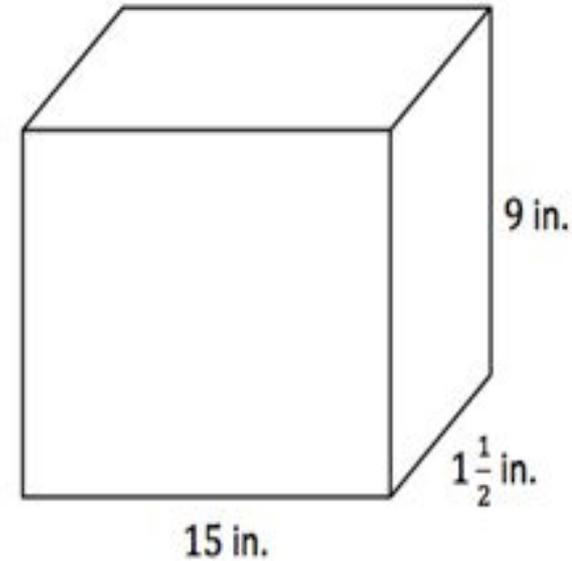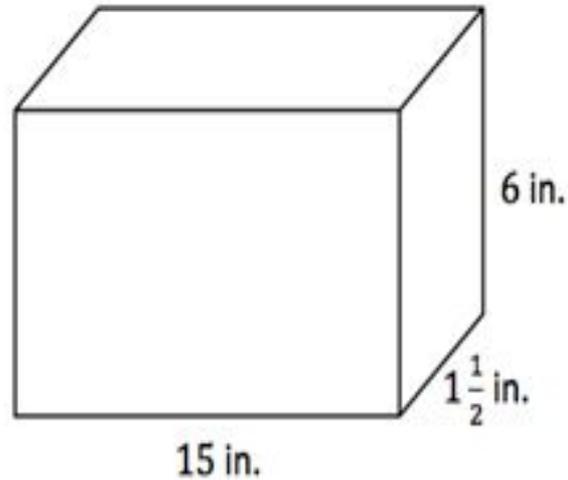If length 8cm, width 5cm and height 10 cm for a rectangular prism. What is the volume of rectangular prism?

3 in.

$1\frac{1}{2}$ in.

15 in.

6 in.
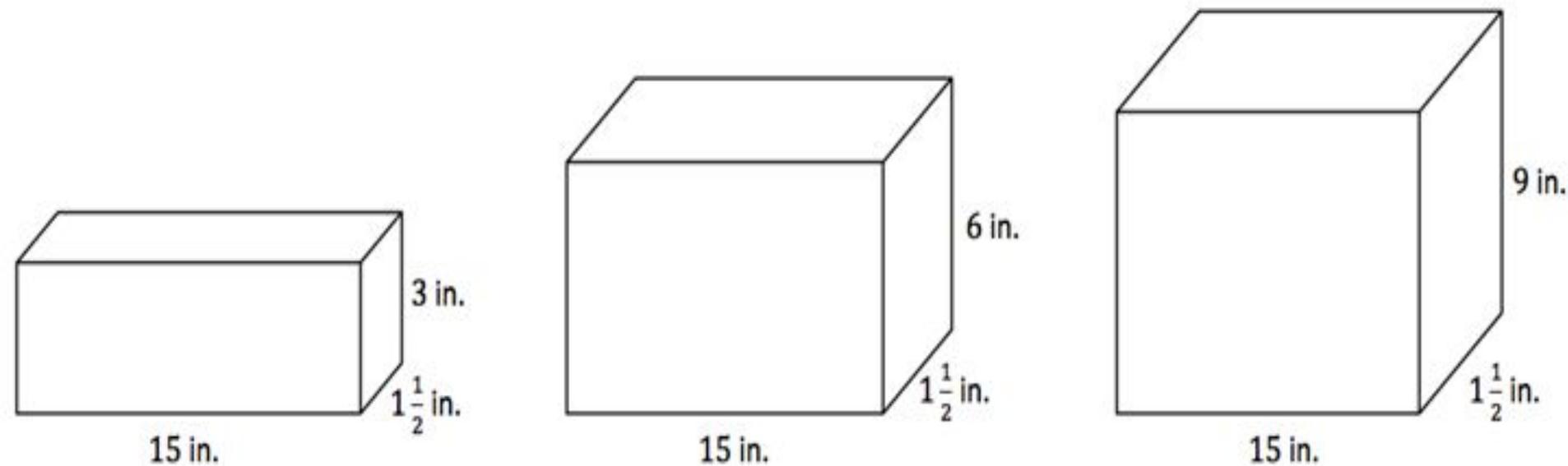
$1\frac{1}{2}$ in.

15 in.

9 in.
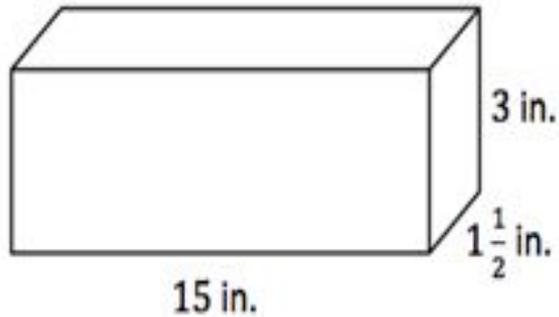
$1\frac{1}{2}$ in.

15 in.

These rectangular prisms have same area of the base

$$(\mathbf{15\ in.})\left(\mathbf{1}\frac{1}{2}\,\boldsymbol{in.}\right) = \left(22\frac{1}{2}\,\text{in}^2\right)$$

The volume of the second prism is twice that of the first because the height is doubled. The volume of the third prism is three times than the first because the height of the third prism is tripled.

Draw a sketch of the figure. Then calculate the volume of rectangular prism

Area of the base = $4 \frac{3}{8}$ ft^2

Height = $2 \frac{1}{2}$ ft.

Draw a sketch of the figure. Write the length, width, and height in feet. Then calculate the volume of rectangular prism
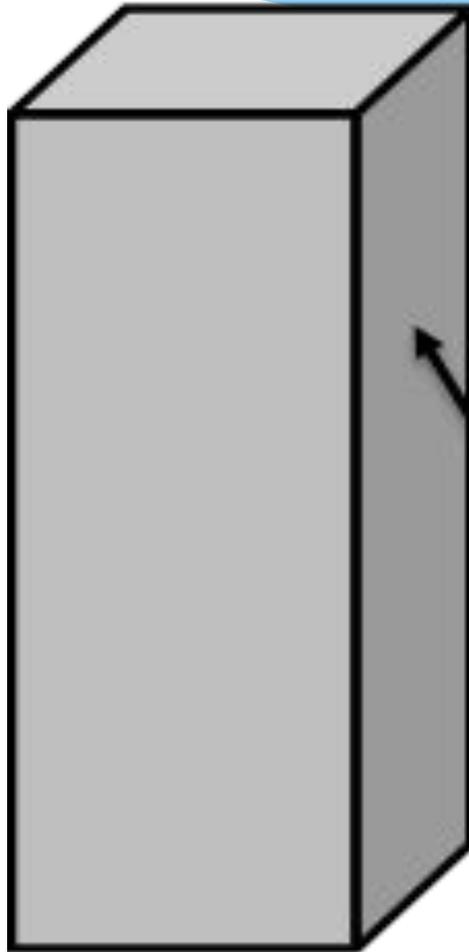
Length is $2\frac{1}{2}$ times as long as the height.

Width is $\frac{3}{4}$ as long as the height.

Height = 3 ft.

Calculate the volume.

$\frac{3}{10}$ ft.

Area $= \frac{4}{3}$ ft^2

Challenge!

Determine the volume of a rectangular prism whose length and width are in a ratio of $3:1$. The width and height are in a ratio of $2:3$. The length of the rectangular prism is 5 ft.

Thank you for your attention!