Practice Run

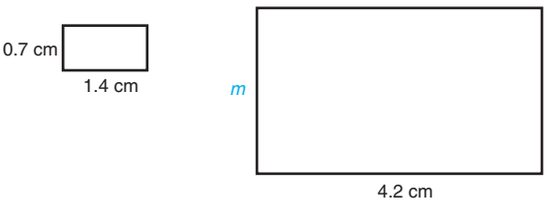
1. Rearrange each of the given the formulas to isolate the indicated variable.

   a. $V = lwh$, isolate h

   b. $V = \frac{4}{3}\pi r^3$, isolate r

   c. $A = s^2$, isolate s

2. Two rectangles are shown. The smaller rectangle is the original and the larger rectangle is the result of an enlargement. Determine the scale factor used and then solve for m.



Compare your answers.

1. Rearrange each of the given the formulas to isolate the indicated variable.

   a. $V = lwh$, isolate h

$$V = lwh$$
$$\frac{V}{lw} = \frac{lwh}{lw}$$
$$\frac{V}{lw} = h$$

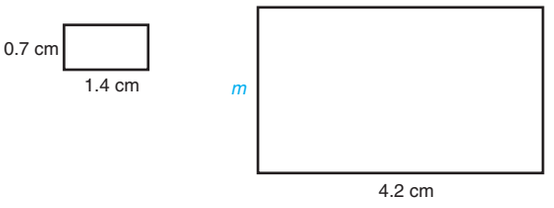
   b. $V = \frac{4}{3}\pi r^3$, isolate r

$$V = \frac{4}{3}\pi r^3$$
$$V \cdot \frac{3}{4} = \frac{4}{3} \cdot \frac{3}{4}\pi r^3$$
$$\frac{3V}{4} = \pi r^3$$
$$\frac{3V}{4} \div \pi = \pi r^3 \div \pi$$
$$\frac{3V}{4} \cdot \frac{1}{\pi} = r^3$$
$$\frac{3V}{4\pi} = r^3$$
$$\sqrt[3]{\frac{3V}{4\pi}} = \sqrt[3]{r^3}$$
$$\sqrt[3]{\frac{3V}{4\pi}} = r$$

   c. $A = s^2$, isolate s

$$A = s^2$$
$$\sqrt{A} = \sqrt{s^2}$$
$$\sqrt{A} = s$$

2. Two rectangles are shown. The smaller rectangle is the original and the larger rectangle is the result of an enlargement. Determine the scale factor used and then solve for m.



Scale factor:

$$k = \frac{4.2}{1.4}$$
$$k = 3$$

Missing side:

$$k = \frac{m}{\text{original measure}}$$
$$3 = \frac{m}{0.7}$$
$$3(0.7) = m$$
$$2.1 = m$$

The scale factor is 3 and the missing side, m, is 2.1 cm.