# Prism Word Problems Worksheets

A right rectangular prism-shaped container has inside dimensions of $7\frac{1}{2}$ cm long and $4\frac{3}{5}$ cm wide. The tank is $\frac{3}{5}$ full of vegetable oil.  It contains $0.414$ L of oil.  Find the height of the container.
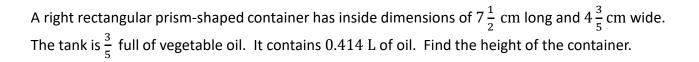
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$$V = Bh = (lw)h$$

$$414 \text{ cm}^3 = \left(7\frac{1}{2} \text{ cm} \cdot 4\frac{3}{5} \text{ cm}\right) \cdot h$$

$$414 \text{ cm}^3 = 34\frac{1}{2} \text{ cm}^2 \cdot h$$

$$414 \text{ cm}^3 = \frac{69}{2} \text{ cm}^2 \cdot h$$

$$414 \text{ cm}^3 \cdot \frac{2}{69 \text{ cm}^2} = \frac{69}{2} \text{ cm}^2 \cdot \frac{2}{69 \text{cm}^2} \cdot h$$

$$\frac{828}{69} \text{ cm} = 1 \cdot h$$

$$12 \text{ cm} = h$$

*The vegetable oil in the container is $12$ cm deep, but this is only $\frac{3}{5}$ of the container's depth.  Let $d$ represent the depth of the container in centimeters.*

$$12 \text{ cm} = \frac{3}{5} \cdot d$$

$$12 \text{ cm} \cdot \frac{5}{3} = \frac{3}{5} \cdot \frac{5}{3} \cdot d$$

$$\frac{60}{3} \text{ cm} = 1 \cdot d$$

$$20 \text{ cm} = d$$

**The depth of the container is 20 cm.**

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