Prism Word Problems Worksheets

An oil tank is the shape of a right rectangular prism. The inside of the tank is 36.5 cm long, 52 cm wide, and 29 cm high. If 45 liters of oil have been removed from the tank since it was full, what is the current depth of oil left in the tank?

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$$V = Bh = (lw)h$$

$$V = (36.5 \text{ cm} \cdot 52 \text{ cm}) \cdot 29 \text{ cm}$$

$$V = 1,898 \text{ cm}^2 \cdot 29 \text{ cm}$$

$$V = 55,042 \text{ cm}^3$$

The tank has a capacity of $55,042 \text{ cm}^3$*, or* 55.042 L.

$$55.042 \text{ L} - 45 \text{ L} = 10.042 \text{ L}$$

If 45 L *of oil have been removed from the tank, then* 10.042 L *are left in the tank.*

$$V = Bh = (lw)h$$

$$\begin{aligned} 10,042 \text{ cm}^3 &= (36.5 \text{ cm} \cdot 52 \text{ cm}) \cdot h \\ 10,042 \text{ cm}^3 &= 1,898 \text{ cm}^2 \cdot h \\ 10,042 \text{ cm}^3 \cdot \frac{1}{1,898 \text{ cm}^2} &= 1,898 \text{ cm}^2 \cdot \frac{1}{1,898 \text{ cm}^2} \cdot h \\ \frac{10,042}{1,898} \text{ cm} &= 1 \cdot h \\ 5.29 \text{ cm} &\approx h \end{aligned}$$

The depth of oil left in the tank is approximately 5.29 cm.