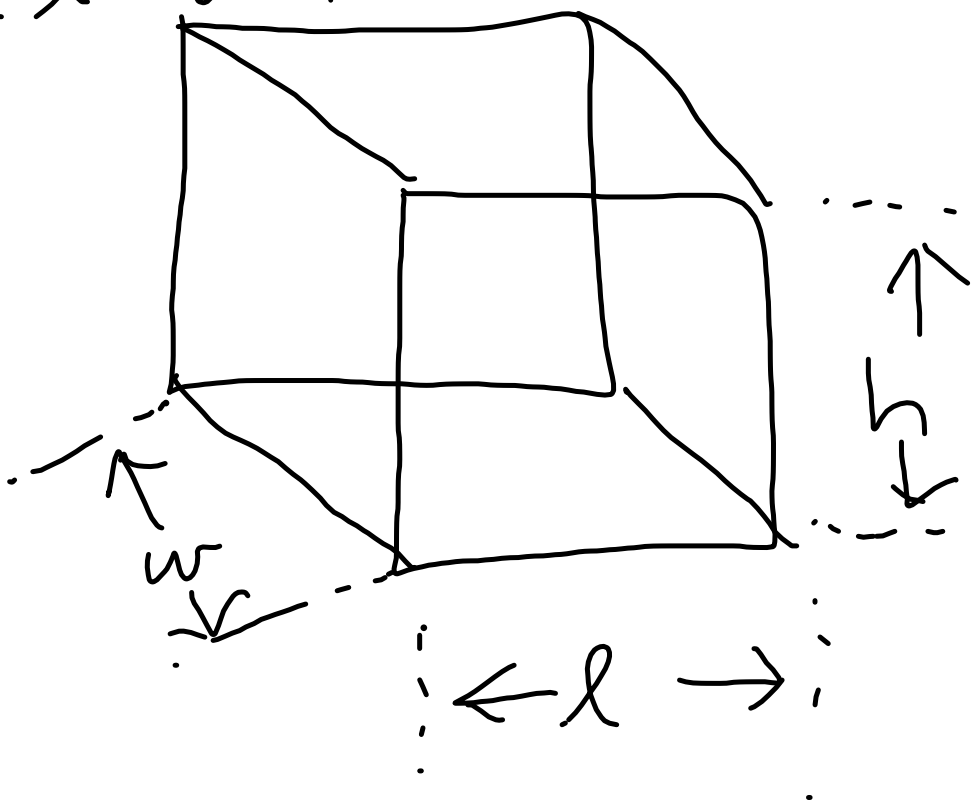


$$A = l \cdot w$$

$$V = l \cdot w \cdot h$$



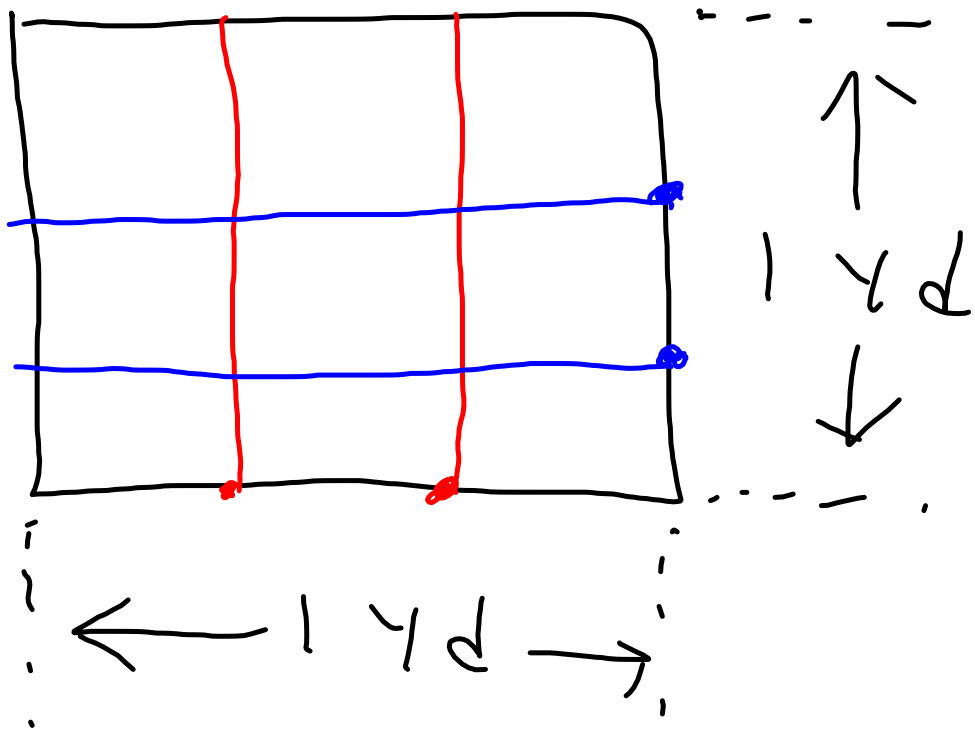
Convert 81 square feet to square yards

$$\begin{array}{r} \text{ft}^2 \longrightarrow \text{yd}^2 \\ \hline 81 \cancel{\text{ft}^2} \\ \hline 1 \end{array} \left(\frac{1 \text{ yd}^2}{9 \cancel{\text{ft}^2}} \right) = 9 \text{ yd}^2$$

$$1 \text{ yd} = 3 \text{ ft}$$

↓ square

$$1 \text{ yd}^2 = 9 \text{ ft}^2$$



Convert 0.188 cubic
Kilometers to cubic
centimeters.

$$\begin{aligned} & \text{km}^3 \longrightarrow \text{m}^3 \longrightarrow \text{cm}^3 \\ & 0.188 \text{ km}^3 \left(\frac{1 \times 10^3 \text{ m}}{1 \text{ km}} \right)^3 \left(\frac{1 \text{ cm}}{1 \times 10^{-2} \text{ m}} \right)^3 = \\ & \frac{0.188 \cancel{\text{km}^3}}{1} \left(\frac{1 \times 10^9 \cancel{\text{m}^3}}{1 \cancel{\text{km}^3}} \right) \left(\frac{1 \text{ cm}^3}{1 \times 10^{-6} \cancel{\text{m}^3}} \right) \\ & = 1.88 \times 10^{14} \text{ cm}^3 \end{aligned}$$

By hand:

$$\begin{aligned} 0.188 \times \frac{10^9}{10^{-6}} &= 10^9 - (-6) \\ &= 10^9 + 6 \\ &= 10^{15} \\ 0.188 \times 10^{15} &= 1.88 \times 10^{14} \end{aligned}$$

$$10^x \cdot 10^y = 10^{x+y}$$

$$\frac{10^x}{10^y} = 10^{x-y}$$

$$(10^x)^y = 10^{x \cdot y}$$

$$1 \text{ L} = 1 \text{ dm}^3$$

$$1 \text{ mL} = 1 \text{ cm}^3 = 1 \text{ c.c.}$$

$$1 \text{ }\mu\text{L} = 1 \text{ mm}^3$$

$$1 \text{ KL} = \text{m}^3$$

$$1 \text{ gal} = 231 \text{ in}^3$$