

VOLUME

DEF

VOLUME IS THE AMOUNT OF SPACE
INSIDE A 3D SHAPE (POLYHEDRON)
HOW MANY UNIT CUBES CAN FIT INSIDE?

VOLUME IS ALWAYS MEASURED IN CUBIC
UNITS

- in cubed mm cubed
- in^3 mm^3

FORMULA

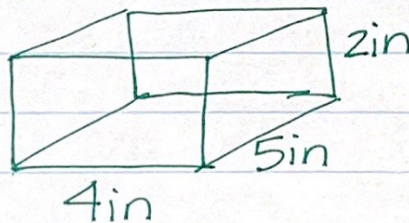
$$V = \underbrace{B}h$$

B = AREA OF THE BASE
h = height

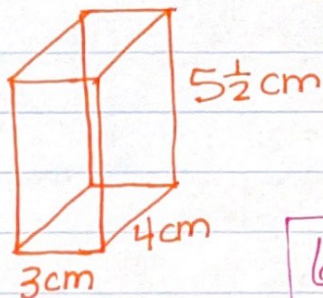
$$V = \underbrace{l \cdot w \cdot h}$$

l = length
w = width
h = height

EXAMPLE:

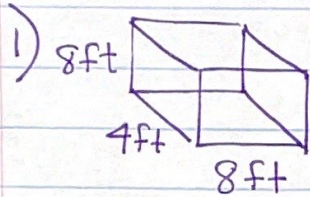


$$\begin{aligned} V &= l \cdot w \cdot h \\ V &= 4 \cdot 5 \cdot 2 \\ V &= 40 \text{ in}^3 \end{aligned}$$



$$\begin{aligned} V &= l \cdot w \cdot h \\ V &= 3 \cdot 4 \cdot 5\frac{1}{2} \\ \frac{3}{1} \cdot \frac{4}{1} \cdot \frac{11}{2} &= \frac{66}{1} = 66 \end{aligned}$$

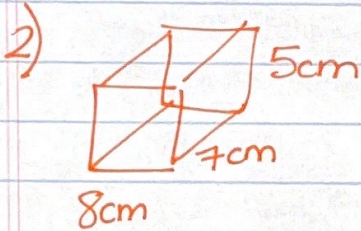
$$\boxed{66 \text{ cm}^3}$$



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

$$V = 8 \cdot 4 \cdot 8$$

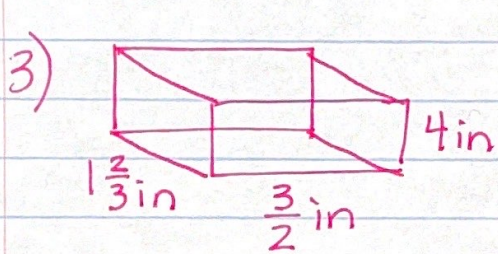
$$V = 256 \text{ ft}^3$$



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

$$V = 8 \cdot 7 \cdot 5$$

$$V = 280 \text{ cm}^3$$



$$V = \frac{5}{3} \cdot \frac{3}{2} \cdot \frac{4}{1} = \frac{10}{1} = 10$$

4) IF THE AREA OF THE BASE IS 8 in^2 AND THE VOLUME IS 32 in^3 , WHAT IS THE HEIGHT.

$$V = Bh$$

$$\rightarrow \frac{32}{8} = \frac{8h}{8} \quad 4 \text{ in}$$

$$4 = h$$