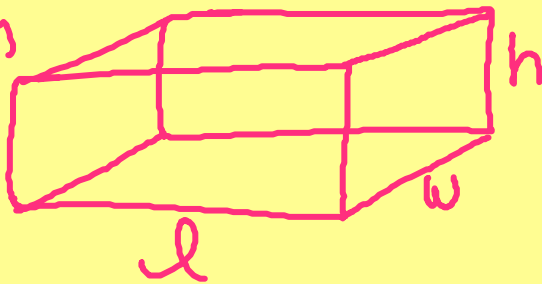


## Volume of rectangular prisms, cubes + cylinders

Volume - amount of space a 3-D figure contains  
(space inside)

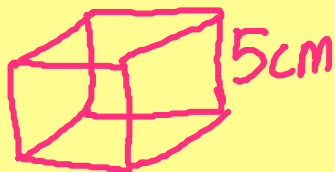
rect. prism

$$V = lwh$$



cube

$$V = s^3$$



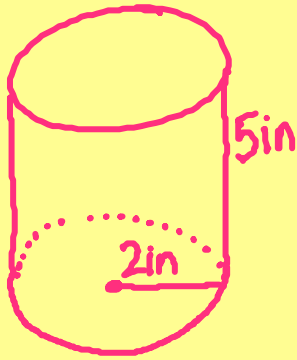
$$\begin{aligned} V &= s^3 \\ V &= 5^3 \\ V &= 125\text{cm}^3 \end{aligned}$$

$\frac{25}{\times 5}$   
125 cube units!

Cylinder

$$V = \pi r^2 h \quad \text{OR} \quad V = Bh$$

↓  
this  
means  
area of base



$$V = \pi r^2 h$$

$$V = 3.14 (2^2) \cdot (5)$$

$$V = 3.14 (4)(5)$$

$$V = 3.14 (20)$$

$$V = 62.8 \text{ in}^3$$

$$\begin{array}{r} 3.14 \\ \times 20 \\ \hline 62.80 \end{array}$$

$$1) V = \pi r^2 h$$

$$V = 3.14(3^2)(14)$$

$$V = 3.14(9)(14)$$

$$V = 3.14(126)$$

$$V = 395.64 \text{ cm}^3$$

$$\begin{array}{r} 3 \\ 14 \\ \times 9 \\ \hline 126 \end{array}$$

$$\begin{array}{r} 3.14 \\ \times 126 \\ \hline 1968 \\ 2512 \\ 3168 \\ \hline 395.64 \end{array}$$

$$2) V = \pi r^2 h$$

$$V = 3.14(4^2)(6)$$

$$V = 3.14(16)(6)$$

$$V = 3.14(96)$$

$$V = 301.44 \text{ in}^3$$

$$\begin{array}{r} 3.14 \\ \times 96 \\ \hline 1884 \\ 2824 \\ 2824 \\ \hline 301.44 \end{array}$$

$$3) V = \pi r^2 h$$

$$V = 3.14 (7^2)(8)$$

$$V = 3.14 (49)(8)$$

$$V = 3.14 (392)$$

$$V = 1230.88 \text{ mm}^3$$

$$\begin{array}{r} 7 \\ 49 \\ \times 8 \\ \hline 392 \end{array}$$

	3	.	1	4	
1	0	9	0	2	3
2	2	7	0	3	9
3	0	6	2	0	2
	0	8	8		