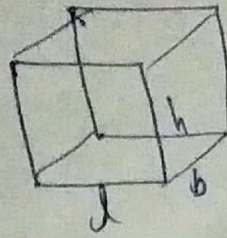


Topic - Surface Area and Volume

(5)

① Cuboid - धनांक



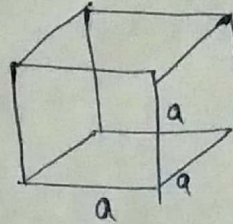
$$\pm \text{Area of four Walls} = 2(l+b)h$$

$$\pm \text{Total Surface Area} = 2(lb+bh+hl)$$

$$\pm \text{Volume } V = l \times b \times h$$

$$\pm \text{Diagonal } d = \sqrt{l^2 + b^2 + h^2}$$

② Cube - Edge OR Side = a



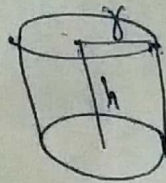
$$\pm \text{Area of four Walls} = 4a^2$$

$$\pm \text{Total Surface Area} = 6a^2$$

$$\pm \text{Volume } V = a^3$$

$$\pm \text{Diagonal} = a\sqrt{3}$$

③ Cylinder

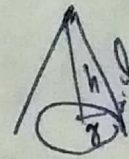


$$\pm \text{Curved Surface Area (C.S.A)} = 2\pi rh$$

$$\pm \text{Total Surface Area (T.S.A)} = 2\pi r(h+r)$$

$$\pm \text{Volume } V = \pi r^2 h$$

④ Cone



$l + \text{Slant ht}$

$$\textcircled{1} l^2 = r^2 + h^2$$

$$\textcircled{2} \text{C.S.A} = \pi r l$$

$$\textcircled{3} \text{T.S.A} = \pi r(l+r)$$

$$\textcircled{4} V = \frac{1}{3} \pi r^2 h$$

⑤ Hollow Cylinder



$$\text{C.S.A} = 2\pi(r+R)h$$

$$\text{T.S.A} = 2\pi(r+R)h + \pi r^2 + \pi R^2$$

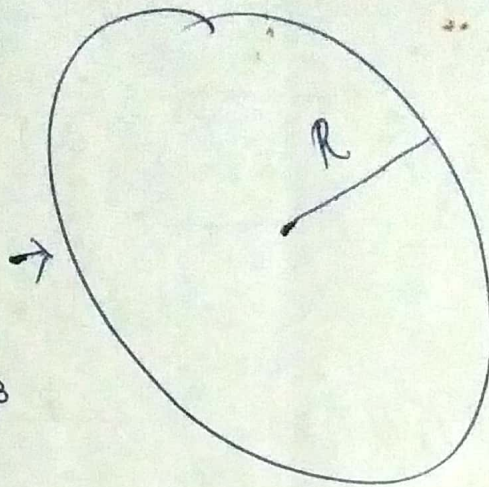
$$\text{Volume } V = \pi(R^2 - r^2)h$$



Sphere

① C.S.A = T.S.A
 $= 4\pi r^2$

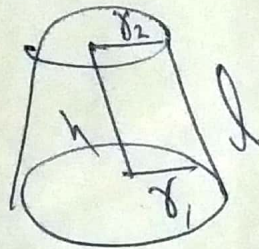
② Volume $V = \frac{4}{3}\pi r^3$



Frustum :-

Volume

$$V = \frac{1}{3}\pi (r_1^2 + r_2^2 + r_1 r_2)h$$



$$1 \quad l^2 = (r_1 - r_2)^2 + h^2$$

$$2 \quad \text{C.S.A} = \pi (r_1 + r_2)l$$

$$3 \quad \text{T.S.A} = \pi (r_1 + r_2)l + \pi r_1^2 + \pi r_2^2$$

⑥

Hemisphere

① C.S.A = $2\pi r^2$

② T.S.A = $3\pi r^2$

③ Volume $V = \frac{2}{3}\pi r^3$

