16-8-20

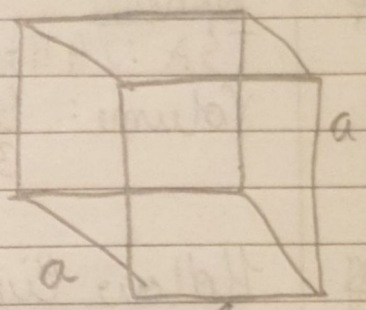
SS9664

22cm
id = 6cm
od = 10cm
Find vol

Surface Areas & Volumes

Cube:

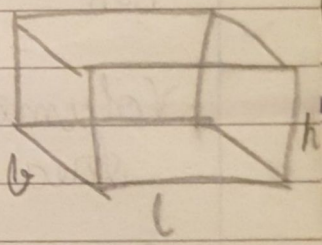
Lateral Surface Area: $4a^2$
Total Surface Area : $6a^2$
Volume : a^3
Open Cuboidical box: $5a^2$
dia = $\sqrt{3}a$



Cube

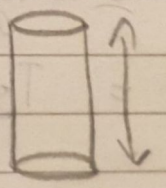
Cuboid

Lateral Surface Area: $2h(l+b)$
Total Surface Area : $2(lb+bh+lh)$
Diagonal : $\sqrt{l^2+b^2+h^2}$
Volume : lbh
Open box / Open room: $2h(l+b)+l\times b$



Cylinder

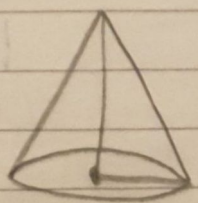
Curved Surface Area: $2\pi rh$
Total Surface Area: $2\pi r(r+h)$
Volume : $\pi r^2 h$
Area of thering = $\pi(R+r)(R-r)$



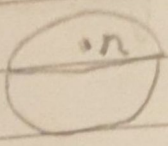
Cone

Curved Surface Area: πrl
Total Surface Area: $\pi r(l+r)$
Volume: $\frac{1}{3}\pi r^2 h$

$l^2 = h^2 + r^2$



Hemisphere

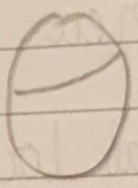


CSA = $2\pi r^2$

TSA : $3\pi r^2$

Volume : $\frac{2}{3}\pi r^3$

Sphere



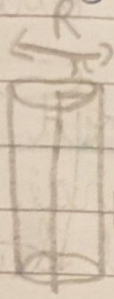
TSA : $4\pi r^2$

Volume : $\frac{4}{3}\pi r^2$

Hollow sphere

Vol = $\frac{4}{3}\pi(R^3 - r^3)$

Hollow Cylinder (pipe)



CSA out : $2\pi RH$

CSA in : $2\pi rh$

TSA : CSA in + CSA out + 2 rings

$= 2\pi rh + 2\pi RH + 2\pi(R+r)(R-r)$

Volume = $\pi h(R+r)(R-r)$

Area = CSA in + CSA out + 2 rings

Points....

→ P of rectangle = $2(l+b)$

→ Area = $\frac{\text{Total cost}}{\text{Rate}}$

→ No - $\frac{\text{Big area}}{\text{Small area}}$

1 lit = 1000 cm^3

1 m^3 = 1000 Lit

Ch- 2

Polynomials

$a^3 - b^3 - 3ab(a-b)$

Algebric Identities

$\frac{a^2\sqrt{3}}{4}$.

1. $(a+b)^2 = a^2 + 2ab + b^2$
2. $(a-b)^2 = a^2 - 2ab + b^2$
3. $a^2 - b^2 = (a+b)(a-b)$
4. $(x+a)(x+b) = x^2 + x(a+b) + ab$
5. $(x+y+z)^2 = x^2 + y^2 + z^2 + 2xy + 2zy + 2zx$
6. $(a+b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$
   or $a^3 + 3ab(a+b) + b^3$
7. $(a-b)^3 = a^3 - 3a^2b + 3ab^2 - b^3$ or
   $a^3 - 3ab(a-b) - b^3$
8. $a^3 + b^3 = (a+b)(a^2 - ab + b^2)$
9. $a^3 - b^3 = (a-b)(a^2 + ab + b^2)$
10. If $a+b+c = 0$, then $a^3 + b^3 + c^3 = 3abc$
11. $a^3 + b^3 + c^3 - 3abc = (a+b+c)(a^2 + b^2 + c^2 - ab - bc - ca)$

$17 - 4 = a - 4a$

$13 = -3a$

$a = \frac{-13}{3}$

$a^3 \cdot 3as^2$

- A ll gm with 1 angle 90° is a rectangle

- If all sides are equal of a quaadrutaleral, it is a rhombus.

- A rectangle with adj sides equal is a square.

- If one of the sides are equal n parallel, it is a ll gm.

Mid Pt Th: The line joining the mid points of 2 sides of a Δ is ll to the third side and half of the third side