Ch-12 Surface Areas and Volumes

Surface Areas –

1. Total Surface Area of a Cuboid = 2 x (l b + b h + h l).
2. Lateral Surface Area of a Cuboid = 2 x (l + b) x h.
3. Total Surface Area of a Cube = 6 x a^2.
4. Lateral Surface Area of a Cube = 4 x a^2.
5. Total Surface Area of a Cylinder = 2 π r x (r + h).
6. Curved Surface Area of a Cylinder = 2 π r h.
7. Total Surface Area of a Cone = π r x (r + l), where, l = $\sqrt{r^2 + h^2}$.
8. Curved Surface Area of a Cone = π r l, where, l = $\sqrt{r^2 + h^2}$.
9. Surface Area of a Sphere = 4 π r^2.
10. Total Surface Area of a Hemi-Sphere = 3 π r^2.
11. Curved Surface Area of a Hemi-Sphere = 2 π r^2.
12. Total Surface Area of a Frustum = π R^2 + π r^2 + [π x (R + r) x l], where, l = $\sqrt{(R - r)^2 + h^2}$.
13. Curved Surface Area of a Frustum = π x (R + r) x l, where, l = $\sqrt{(R - r)^2 + h^2}$.

Volumes –

1. Volume of a Cuboid = l b h.
2. Volume of a Cube = a^3.
3. Volume of a Cylinder = π r^2 h.
4. Volume of a Cone = $\frac{1}{3}$ x π r^2 h.
5. Volume of a Sphere = $\frac{4}{3}$ x π r^3.
6. Volume of a Hemi-Sphere = $\frac{2}{3}$ x π r^3.
7. Volume of a Frustum = $\frac{1}{3}$ x π x (R^2 + r^2 + R r) x h.