

1) A cylindrical container with diameter of base 56 cm contains sufficient water to submerge a rectangular solid of iron with dimensions $32\text{ cm} \times 22\text{ cm} \times 14\text{ cm}$. Find the rise in the level of the water when the solid is completely submerged.

2) If V is the volume of a cuboid of dimensions a, b, c and S is the surface area then prove that

$$\frac{1}{V} = \frac{2}{S} \left(\frac{1}{a} + \frac{1}{b} + \frac{1}{c} \right)$$

3) The breadth of a room is twice its height, one half of its length and volume of the room is 512 m^3 . Find dimensions.

4) Cubes A, B, C having edges 18 cm , 24 cm and 30 cm respectively are melted and moulded into a new cube D. Find the edge of cube D.