Surface Areas and Volumes : Worksheet -10

1. The ratio of the radii of two cylinders is 1 : $\sqrt{3}$ and their heights are in the ratio 2 : 3. The ratio of their volumes is _ _ _ _ _ _ _ _ _ [ ]

   a) 1 : 9 b) 2 : 9 c) 4 : 9 d) 5 : 9

2. A metal pipe has a external diameter of 4 cm and internal diameter of 3 cm and is 20 cm long then the volume of the metal used: [ ]

   a) 22 cm^3 b) 110 cm^3 c) 220 cm^3 d) 440 cm^3

3. From a right circular cylinder of radius 10 cm and height 21 cm a right circular cone of same base radius is removed. If the volume of the remaining portion is 4,400 cm^3, then the height of the cone removed is : _ _ _ _ _ _ _ _ _ [ ]

   a) 15 cm b) 18 cm c) 21 cm d) 24 cm

4. If the radius and slant height of a right circular cone are 4 cm and 7 cm respectively then its curved surface area will be [ ]

   a) 78 cm^2 b) 87 cm^2 c) 88 cm^2 d) 74 cm^2

5. The radius and height of a cone are each increased by 20%, then the volume of the cone is increased by _ _ _ _ _ _ _ _ _ _ _ _ [ ]

   a) 20% b) 40% c) 60% d) 72.8 %

6. A conical container of base radius 'r' and height 'h' is full of water which is poured into a cylindrical container of radius r, then it will occupy a height equal to [ ]

   a) 3 h b) $\frac{h}{3}$ c) $\frac{rh}{3}$ d) $\frac{3h}{r}$

7. The section of a right circular cone by a plane through its vertex perpendicular to the base in an equilateral triangle of side 12 cm. The volume of the cone is [ ]

a) $72\sqrt{3}\ \Pi\ cm^3$ b) $71\sqrt{3}\ cm^3$ c) $70\sqrt{2}\ \Pi\ cm^3$ d) $69\sqrt{2}\ \Pi\ cm^3$

8. A cone and a cylinder have the same base area. They also have the same curved surface area. If the height of the cylinder is 3 m then the slant height of the cone (in m) is _ _ _ _ _ _ _ _ _ _ _ _ [ ]

a) 3 b) 4 c) 6 d) 7

9. If the slant height of a cone is four times its radius, then its curved surface area_ _ _ _ _ _ _ _ _ _ _ _ _ . [ ]

a) Πr^2 b) $2\Pi r^2$ c) $3\Pi r^2$ d) $4\Pi r^2$