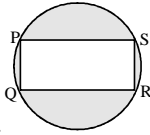
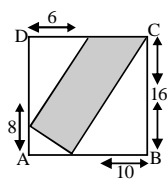


Mental Ability

Ganit Bodh Series

Self Evaluation Test -21 (Mensuration)

- If the side of a cube is increased by 100%, find by what percentage the surface area of the cube is increased?
a) 150% b) 200%
c) 300% d) 350%
 - A banquet hall has the dimensions $30\text{ m} \times 12\text{ m} \times 6\text{ m}$. Each person should get 8 m^3 of space. Find the number of persons who can be accommodated in this hall.
a) 240 b) 250
c) 270 d) 300
 - Find the height of the cylinder whose volume is 511 cm^3 and the area of the base is 36.5 cm^2
a) 3.5 cm b) 10.5 cm
c) 14 cm d) None of these
 - The ratio between the curved surface area and the total surface area is 2 : 3 and the total surface is 924 cm^2 . What is the volume of the cylinder?
a) 2156 cm^3 b) 2183 cm^3
c) 2492 cm^3 d) None of these
 - If the curved surface area of a cylinder is 1320 cm^2 and its base radius is 21 cm, then what is its total surface area?
a) 4092 cm^2 b) 2084 cm^2
c) 5104 cm^2 d) None of these
 - The radius of an iron rod is decreased to one fourth of its actual radius. If its volume remains constant, then the length will become
a) 2 times b) 12 times
c) 8 times d) 16 times
 - A reservoir is in the shape of a frustum of a right circular cone. It is 8 m wide at the top and 4 m wide at the bottom. If it is 6 m deep, then what is its volume?
a) 224 m^3 b) 176 m^3
c) 204 m^3 d) None of these
 - A spherical metal ball of 6 cm radius is melted and recast into three spherical balls. The radii of two of these balls are 3 cm and 4 cm. What is the radius of the third ball?
a) 4.5 cm b) 5 cm
c) 6 cm d) 7 cm
 - If the diagonals of a rhombus are 18 cm and 24 cm respectively, then find its perimeter.
a) 15 cm b) 42 cm
c) 60 cm d) 68 cm
 - In the figure shown below, PQRS is a rectangle of the dimension $8\text{ cm} \times 6\text{ cm}$ and is inscribed in a circle.

- The radius of the base and the volume of the right circular cone are doubled. What is the ratio of the length of the larger cone to that of the smaller cone?
a) 1 : 4 b) 1 : 2
c) 1 : 3 d) 4 : 1
 - A cone and a hemisphere have equal base radius and equal volumes. The ratio of their heights is :
a) 3 : 1 b) 2 : 1
c) 1 : 3 d) 4 : 1
 - If the right circular cone is cut into three solids of volumes V_1 , V_2 and V_3 by two cuts which are parallel to the base and trisects the altitude, then $V_1 : V_2 : V_3$
a) 1 : 2 : 3 b) 1 : 4 : 6
c) 4 : 1 : 9 d) None of these
 - The top of a conical container has a circumference of 308 m. Water flows in at a rate of 12 m^3 every 2 s. When will the container be half filled, if its depth is 12 m?
a) 10.5 min b) 68 min
c) 21 min d) 42 min
 - If a regular square pyramid has a base of side 8 cm and height of 30 cm, then what is its volume (in cc)?
a) 360 b) 480
c) 640 d) 800
 - A cylinder circumscribes a sphere. The ratio of their volumes is
a) 2 : 1 b) 3 : 2
c) 4 : 3 d) 6 : 5
 - Find the area of the shaded region in the given figure of square ABCD.

- | | |
|----------------------|----------------------|
| a) 128 cm^2 | b) 184 cm^2 |
| c) 154 cm^2 | d) 168 cm^2 |
 - An open box is made of wood 2 cm thick. Its internal dimension is $86\text{ cm} \times 46\text{ cm} \times 38\text{ cm}$. What is the cost of painting the outer surface of this box @ Rs 10 per m^2 ?
a) Rs 12.35 b) Rs 8.85
c) Rs 15.70 d) Rs 16.50
 - A copper wire when bent in the form of a square, encloses an area of 121 m^2 . If the same wire is bent to form a circle, the area enclosed by it would be:
a) 124 m^2 b) 136 m^2
c) 154 m^2 d) 184 m^2
 - A spherical ball was painted black. After getting painted, it was cut into 4 similar pieces. What is ratio of the painted area to the non-painted area?
a) 1 : 1 b) 1 : 2
c) 3 : 1 d) 3 : 2

Find the area of the shaded portion.

- 44 cm^2
- 34.25 cm^2
- 32.50 cm^2
- None of these