

SURFACE AREAS AND VOLUMES OF SOLID FIGURES

Name of the solid	Figure	Lateral Surace Area	Total surface Area	Volume
Cube	a	4a ²	6a ²	a ³
Cuboid	id h $2h(l+$		2(lb+bh+lh)	lbh
Cylinder	r h h	2πrh	$2\pi r(r+h)$	πr ² h
Cone	h l L.	πıl	π r(l+r)	$\frac{1}{3} \pi r^2 h$
Sphere		$4\pi r^2$		$\frac{4}{3}\pi r^{3}$
Hemisphere	r	$2\pi r^2$	$3\pi r^2$	$\frac{2}{3} \pi r^3$

CHECK YOUR PROGRESS:

1.	The radius and height of a right circular cylinder are $10\frac{1}{2}$ cm and 12cm respectively. Its curved							
	surface area is (use $\pi = \frac{22}{7}$):							
	(A) 396cm ²	(B) 792cm^2	(C) 1188cm ²	(D) 132cm ²				
2.	2. The volume of a right circular cylinder is 4620 cm ³ and its base radius is 14cm. The c surface area of the cylinder is (use $\pi = \frac{22}{7}$):							
	(A) 330cm^2	$(B) 440 cm^2$	$(C) 660 cm^2$	(D) 990cm^2				
3.	3. The base radius and height of a right circular cone are 3.5cm and 12cm respectively. Its cur							
	surface area is (use	$\pi = \frac{22}{7}):$						
	(A) 550cm^2	(B) 137.5cm ²	$(C) 275 cm^2$	(D) 12.5 cm^2				
4.	The volume of a hemispherical bowl is 2425.5 cm ³ . The radius of the hemisphere is :							
	(A) 5.25cm	(B) 10.5cm	(C) 15.75cm	(D) 12cm				
5.	The surface area of	The surface area of a sphere is 1386cm ² . Its volume is :						
	(A) 9702 cm^3	(B) 2425.5cm ³	$(C) 441 cm^3$	(D) 4851 cm^3				
6.	If the surface area of a cube is 864 cm ² , find its side and volume.							
7.	The radius of a road roller is 42cm and it is 1 meter long. If it takes 250 revolutions to level							
	playground, find the cost of levelling the ground at the rate of Rs. 5 per sq. m (use $\pi = \frac{22}{7}$)							
8.	A conical tent is 3m high and its base radius is 4m. Find the cost of canvas required to make the tent at the rate of Rs. 50 per m ² (use $\pi = 3.14$)							
9.	The diameter of a solid hemispherical toy is 35 cm, find its							
(i) Curved surface area								
	(ii) Total surface area							
	(iii) Volume							
10.	The base radii of two right circular cylinders of the same height are in the ratio $3:5$. Find the ratio of their volumes.							

ST 1	RETCH YOURSELF The radius and height of a closed right circular cylinder are in the ratio 5:7 and its	ANSWERS CHECK YOUR PROGRESS :				
1		1.	В	2. C	3. B	4. B
	volume is 4400cm ³ . Find the radius and height of the cylinder		D			
	[use $\pi = \frac{22}{7}$]	6.	Side = 12 cm, Volume = 1728 cm ³			
		7.	Rs. 3300/-	8. Rs. 3	3140/-	
2	A metallic solid ball of diameter 28cm is melted to form solid cylinders of base radius	9.	9. Curved surface area = 1925 sq cm, surfacearea= 2887.5 sq cm, Volu			-
	7cm and height $9\frac{1}{3}$ cm. Find the number of		11229.17cm ³ ,			
	cylinders so formed.	10.	9:25			
3.	The radii of two cylinders are in the ratio		STRETCH YOURSELF:			
	7:6 and their heights are in the ratio 3 : 4. Find the ratio of their	1. Radius = 10 cm , height = 14 cm				
	(i) Volumes	2.8				
	(ii) Curved surface areas.		3. (i) 49 : 48 (ii) 7 : 8			8