

BCM School, Basant Avenue, Dugri Road, Ludhiana  
Class - IX

Maths Assignment

Surface Area And Volume

Q1 The radius of a hemispherical balloon increases from 6 cm to 12 cm as air is being pumped into it. The ratio of the surface areas of the balloon in the two cases is

- (a) 1:4.    (b) 1:3.    (c) 2:3.    (d) 2:1

Q2 A cone is 8.4 cm high and the radius of its base is 2.1 cm. It is melted and recast into a sphere. The radius of the sphere is

- (a) 4.2 cm    (b) 2.1 cm    (c) 2.4 cm    (d) 1.6 cm

Q3 The total surface area of a cone whose radius is  $r/2$  and slant height  $2l$  is

- (a)  $2\pi r(l+r)$     (b)  $\pi r(l+r/4)$     (c)  $\pi r(l+r)$     (d)  $2\pi rl$

Q4 Assertion: if  $r$  be the radius and  $h$  be the height of cone then the

$$\text{slant height} = \sqrt{(h^2+r^2)}$$

Reason: if the height of cone is 24 cm and diameter of base is 14cm then the slant height of cone is 15 cm

- a) both Assertion and reason are correct and reason is correct explanation for Assertion  
b) both Assertion and reason are correct but reason is not correct explanation for Assertion  
c) Assertion is correct but reason is false  
d) both Assertions and reason are false

Q5 The volume of a solid hemisphere is  $1152\pi \text{ cm}^3$ . Find its curved surface area.

Q6 A metallic sphere of radius 10.5 cm is melted and thus recast into small cones, each of radius 3.5cm and height 3cm. Find how many cones are obtained.

Q7 The volume of two hemisphere are in the ratio 27:125. Find the ratio of their radii.

Q8. Teacher said to the students of class 9 by showing the given figure, in this monument



one can find combination of solid figures. There are two domes at the corners which are hemispherical in shape, main entrance is a rectangle in shape with semicircle at upper end.

- i) Write the formula for total surface area of a hemisphere.
- ii) How much is the volume of two domes, if diameter of its base is 7m.
- iii) Find the volume of two bushes in the left of the front garden, if radius of upper end is 42cm and height 100 cm.

