SURFACE AREAS AND VOLUMES

CONE

EXERCISE

Q.1 The height of a cone is 48 cm and the radius of its base is 36 cm. Find the curved surface area and the total surface area of the cone. (Take $\pi = 3.14$).

Q.2 Curved surface area of a cone is 2200 cm^2. It its slant height is 50 cm, find :

(i)   radius of the base.

(ii)   total surface area.

(iii)   height of the cone.

Q.3 A bus stop is barricaded from the remaining part of the road, by using 50 hollow cones made of recycled cardboard. Each cone has a base diameter of 40 cm and height 1 m. If the outer side of each of the cones is to be painted and the cost of painting is Rs. 12 per m^2, what will be the cost of painting all these cones?

(Use $\pi = 3.14$ and take $\sqrt{1.04} = 1.02$)

Q.4 The radius and the slant height of a cone are in the ratio 3 : 5. If its curved surface area is 2310 cm^2, find its height.

Q.5 A circus tent is in the shape of a cylinder, upto a height of 8 m, surmounted by a cone of the same radius 28 m. If the total height of the tent is 13 m, find:

(i)   total inner curved surface area of the tent.

(ii)   cost of painting its inner surface at the rate of Rs. 3.50 per m^2.

Q.6 The height of a cone is 30 cm and its volume is 3140 cm^3. Taking $\pi = 3.14$, find :

(i)   radius of the base.

(ii)   area of the base.

Q.7 The volume of a right circular cone is 9856 cm^3. If the diameter of the base is 28 cm, find:

(i)   height of the cone.

(ii)   slant height of the cone

(iii)   curved surface area of the cone.

Q.8 A heap of wheat is in the form of a cone whose diameter is 10.5 m and height is 3 m. Find its volume. The heap is to be covered by canvas to protect it from rain. Find the area of the canvas required.

Q.9 A cylinder and a cone have same base area. But the volume of cylinder is twice the volume of cone. Find the ratio between their heights.

ANSWER KEY

1.   The curved surface area =6782.4 cm^2,

the total surface area of the cone= 10851.84 cm^2

2.   (i)14 cm   (ii)2816 cm^2 (iii)48 cm

3.   Rs. 384.34

4.   28 cm

5.   (i)3907.2 m^2 (ii)Rs. 13675.20

6.   (i)r = 10cm   (ii) 314 cm^2

7.   (i)48 cm   (ii)50 cm   (iii)2200 cm^2

8.   99.7755 m^2

9.   2 : 3