EduSahara™ Assignment

Name : Conversion of Solid from One Shape to Another

Chapter : Surface Areas and Volumes

Grade : CBSE Grade X

1. The height of a right circular cone is 19.00 cm and the radius of its base is 13.00 cm. It is melted and recast into a right circular cone with base radius 7.80 cm. Find the new height

(i) 49.78 cm (ii) 55.78 cm (iii) 47.78 cm (iv) 57.78 cm (v) 52.78 cm

2. A solid metallic cylinder of base radius 3.50 cm and height 15.00 cm is melted to form cones each of height 1.00 cm and radius 1.00 cm . Find the number of complete cones formed

(i) 551 (ii) 566 (iii) 534 (iv) 529 (v) 565

3. A hollow metallic cylindrical tube has an internal radius of 14.00 cm and height 22.00 cm. The thickness of the metal is 2 cm .The tube is melted to cast into a right circular cone of height 6.00 cm. Find the radius of the cone.

(i) 20.69 cm (ii) 22.69 cm (iii) 28.69 cm (iv) 25.69 cm (v) 30.69 cm

4. An open cylindrical vessel of internal diameter 29.00 cm and height 11.00 cm stands on a horizontal table. Inside this is placed a solid metallic right circular cone, the diameter of whose base is 14.50 cm and height 11.00 cm and filled with water. If the cone is replaced by another cone whose height is 5.50 cm and base radius is 3.62 cm, find the drop in the water level.

(i) 0.80 cm (ii) 1.80 cm (iii) 2.80 cm (iv) 8.80 cm (v) 7.80 cm

5. The surface area of a solid metallic sphere is 4073.14 sq.cm. It is melted and recasted into solid right circular cones of radius 5.40 cm and height 7.20 cm . Find the number of complete cones that can be made

(i) 127 (ii) 111 (iii) 123 (iv) 88 (v) 108

6. A hollow sphere of internal and external diameters 40.00 cm and 46.00 cm respectively is melted into a cone of base diameter 24.00 cm. Find the height of the cone

(i) 115.75 cm (ii) 120.75 cm (iii) 133.75 cm (iv) 108.75 cm (v) 91.75 cm

7. A metallic sphere of radius 14.00 cm is melted to recast into the shape of a cylinder of radius 17.00 cm . Find the height of the cylinder.

(i) 17.66 cm (ii) 15.66 cm (iii) 7.66 cm (iv) 9.66 cm (v) 12.66 cm

8. Metallic spheres of radii 3.00 cm, 14.00 cm, 5.00 cm are melted to form a single solid sphere. Find the radius of the resulting sphere.

(i) 2896 cm (ii) $\sqrt[3]{2894}$ cm (iii) $\sqrt[5]{2896}$ cm (iv) $\sqrt[3]{2896}$ cm (v) $\sqrt[3]{2898}$ cm

9. A cylinder with radius 3.00 cm and height 9.00 cm is melted to recast into a cone of height 60.75 cm. Find the radius of the cone.

(i) 2.00 cm (ii) 4.00 cm (iii) 1.00 cm (iv) 3.00 cm (v) 0.00 cm

10. A copper sphere having a radius of 10.00 cm is melted and drawn into a cylindrical wire of radius 0.40 cm. Calculate the length of the wire.

(i) 86.33 m (ii) 78.33 m (iii) 88.33 m (iv) 83.33 m (v) 80.33 m

11. A copper rod of diameter 1.20 cm and length 10.00 cm is drawn into a wire of length 32.40 m of uniform thickness. Find the thickness of the wire.

(i) 0 cm (ii) $\frac{1}{30}$ cm (iii) $\frac{1}{15}$ cm (iv) $\frac{2}{15}$ cm (v) $\frac{1}{10}$ cm

Assignment Key

1) (v)	2) (i)	3) (iv)	4) (i)	5) (ii)	6) (i)
7) (v)	8) (iv)	9) (i)	10) (iv)	11) (ii)	