EduSahara™ Learning Center Assignment

Grade : Class X, CBSE
Chapter : Surface Areas and Volumes
Name : Conversion of Solid from One Shape to Another

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1. The height of a right circular cone is 10.00 cm and the radius of its base is 15.00 cm. It is melted and recast into a right circular cone with base radius 12.00 cm. Find the new height

   (i) 18.62 cm (ii) 20.62 cm (iii) 10.62 cm

   (iv) 12.62 cm (v) 15.62 cm

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2. A solid metallic cylinder of base radius 15.00 cm and height 9.00 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) 6345 (ii) 6005 (iii) 6075

   (iv) 6095 (v) 5915

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3. A hollow metallic cylindrical tube has an internal radius of 12.00 cm and height 25.00 cm. The thickness of the metal is 1 cm .The tube is melted to cast into a right circular cone of height 15.00 cm. Find the radius of the cone.

   (i) 11.18 cm (ii) 16.18 cm (iii) 14.18 cm

   (iv) 8.18 cm (v) 6.18 cm

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4. An open cylindrical vessel of internal diameter 30.00 cm and height 12.00 cm stands on a horizontal table. Inside this is placed a solid metallic right circular cone, the diameter of whose base is 15.00 cm and height 12.00 cm and filled with water. If the cone is replaced by another cone whose height is 3.60 cm and base radius is 4.50 cm, find the drop in the water level.

   (i) 7.89 cm (ii) 8.89 cm (iii) 0.89 cm

   (iv) 1.89 cm (v) 2.89 cm

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5. The surface area of a solid metallic sphere is 3218.29 sq.cm. It is melted and recasted into solid right circular cones of radius 4.80 cm and height 11.20 cm . Find the number of complete cones that can be made

   (i) 58 (ii) 60 (iii) 66 (iv) 68 (v) 63

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6. A hollow sphere of internal and external diameters 34.00 cm and 40.00 cm respectively is melted into a cone of base diameter 14.00 cm. Find the height of the cone

   (i) 227.00 cm (ii) 235.00 cm (iii) 252.00 cm

   (iv) 280.00 cm (v) 265.00 cm

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7. A metallic sphere of radius 12.00 cm is melted to recast into the shape of a cylinder of radius 13.00 cm . Find the height of the cylinder.

   (i) 13.63 cm (ii) 16.63 cm (iii) 8.63 cm

   (iv) 18.63 cm (v) 10.63 cm

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8. Metallic spheres of radii 3.00 cm, 10.00 cm, 8.00 cm are melted to form a single solid sphere. Find the radius of the resulting sphere.

   (i) $\sqrt[5]{1539}$ cm (ii) $\sqrt[3]{1536}$ cm (iii) 1539 cm

(iv) $\sqrt[3]{1541}$ cm (v) $\sqrt[3]{1539}$ cm

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9. A cylinder with radius 5.00 cm and height 1.00 cm is melted to recast into a cone of height 0.93 cm. Find the radius of the cone.

(i) 10.00 cm (ii) 11.00 cm (iii) 9.00 cm

(iv) 8.00 cm (v) 7.00 cm

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10. A copper sphere having a radius of 9.00 cm is melted and drawn into a cylindrical wire of radius 0.30 cm. Calculate the length of the wire.

(i) 95.00 mt (ii) 108.00 mt (iii) 123.00 mt

(iv) 114.00 mt (v) 94.00 mt

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11. A copper rod of diameter 0.80 cm and length 8.00 cm is drawn into a wire of length 81.92 mt of uniform thickness. Find the thickness of the wire.

(i) 0 cm (ii) $\frac{3}{80}$ cm (iii) $\frac{1}{20}$ cm

(iv) $\frac{1}{40}$ cm (v) $\frac{1}{80}$ cm

Assignment Key

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