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Class 9
Surface Area and Volume

Answer the questions

(1) Find the volume of the biggest cone that can fit inside a cube of side 2 cm.

(2) The radius of a cylinder is halved and the height is doubled. What is the area of the curved surface when compared to the same area previously?

(3) A sphere is just enclosed inside a cube of volume 12 cm^3. Find the volume of the sphere.

(4) A cone made completely of metal (i.e. it is not hollow) has a base radius of 14 cm, and height of 7 cm. If we melt it and recast it into a sphere, what will be the radius of sphere?

(5) Find the volume the biggest sphere which can fit in a cube of side 8r.

(6) An sphere is expanded to a bigger sphere such that its surface area increases by a factor of 4, find the change in its radius.

(7) Find the surface area of the biggest sphere which can fit inside a cube of side 6r.

(8) If radius of a sphere is 4a, find its surface area.

Choose correct answer(s) from given choice

(9) If a cone and hemisphere stands on equal bases, and have the same height. Find the ratio of their volumes.

a. 2:1 **b.** 3:2

c. 1:2 **d.** 1:3

(10) If the radius of a hemisphere is 3r, find its curved surface area.

a. 8 π r^2 **b.** 32 π r^2

c. 48 π r^2 **d.** 18 π r^2

(11) If radius of a sphere is 3a, find its volume.

a. 4/3 π a^3 **b.** 256/3 π a^3

c. 32/3 π a^3 **d.** 36 π a^3