



ST. LAWRENCE HIGH SCHOOL



A Jesuit Christian minority Institution

Subject: Mathematics

Class: X

Date: 29.04.2020

Answer key of Worksheet-20

Chapter- Real life problems related to different solid objects

Topic- Problems on the basis of Right circular cone, Cylinder, Sphere and hemisphere

1. Choose the correct alternative. _____ $1 \times 15 = 15$

a) After melting a solid sphere of radius r unit a solid right circular cone with r unit height is made. Find the base radius of the cone.

Ans) $2r$ unit

b) After melting a right circular cone a right circular cylinder with same radius as the cone is made. Height of the cylinder is 5 cm. Find height of the cone.

Ans) 15 cm

c) If two solid hemispheres with radius r are joined along their bases. Find whole surface area of the new solid object.

Ans ii) $6\pi r^2$ sq unit

d) A pencil with one end open is a combination of a right circular cone and ____

Ans) right circular cylinder

e) Radius and height of a solid right circular cone are same. Again Radius of the cone is equal to the radius of the base of a hemisphere. Then find ratio of volumes of hemisphere and cone.

Ans ii) $2:1$

f) Find the ratio of curved surface area of hemisphere and cone mentioned in question no (e)

Ans) $\sqrt{2} : 1$

g) A hemispherical container with 9 cm inner radius is full of water. Now with the help of few right circular cylindrical bottles with 3 cm diameter and 4 cm height, the container will be made empty. Find the number of bottles.

Ans iii) 54

h) After melting a solid right circular cone, a solid right circular cylinder is made. Height of the cone is 15 cm. Diameter of the cone and the cylinder are same. Find height of the cylinder.

Ans) 5 cm

i) Radius and volume of a solid right circular cone and a solid sphere are same. Find ratio of the diameter of the sphere and height of the cone.

Ans iii) 2:1

j) How many balls, each of radius 1 cm can be made from a solid sphere of lead of radius 8 cm?

Ans iii) 512

k) A toy is in the form of a cone surmounted on a hemisphere. The diameter of the base of the cone is 6 cm and height is 4 cm. Find the curved surface area of the toy.

Ans i) 33π sq cm

l) A vessel is in the form of a hollow hemisphere mounted on a hollow right circular cylinder. Find the inner surface area of the vessel if diameter of the hemisphere is 14 cm and height of the vessel is 13 cm.

Ans i) 572 sq cm

m) A conical tent is 10 m high and radius of the base is 24 m, Find Slant height of the tent.

Ans ii) 26 m

n) Find the curved surface area of the tent mentioned in question no. (m)

Ans i) $13728/7$ m²

o) Cost of colouring the outside part of tent at Rs 70/m² is

Ans ii) Rs 137280

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