# ST. LAWRENCE HIGH SCHOOL

## A Jesuit Christian minority Institution

Subject: Mathematics        Class: X        Date:29.04.2020

### Worksheet-20

**Chapter- Real life problems related to different solid objects**

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

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1. **Choose the correct alternative.**      **1x15=15**
   a) After melting a solid sphere of radius r unit a solid right circular cone with r unit heightis made. Find the base radius of the cone.

i)2r unit  ii) 3r unit  iii) r unit  iv) 4r 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.

i)10 cm  ii) 15 cm   iii) 18 cm   iv)24 cm

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

i)4$\Pi r^2$sq unit    ii) 6$\Pi r^2$ sq unit   iii) 5$\Pi r^2$sq unit  iv) none of these

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

i) right circular cylinder   ii) sphere   iii) hemisphere   iv) none of these

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  ofvolumes of  hemisphere and cone .

i) 1: 2  ii) 2:1   iii) 1:1   iv) none of these

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

i)$\sqrt{2}$ : 1  ii) 1:$\sqrt{2}$    iii) 1:2   iv) none of these

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

i) 63  ii) 45  iii) 54   iv) none of these

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.

i) 5 cm    ii)  4 cm   iii) 10 cm   iv) none of these

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 .

i) 1:2   ii) 3:1    iii) 2:1    iv) none of these

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

i) 215   ii)  125   iii) 512    iv) none of these

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.

i) 33 $\Pi$ sq cm    ii)33$\Pi$sq m  iii) 35 $\Pi$   sq cm    iv0 none of these

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.

i)572sq cm    ii) 725 sq cm   iii)  275 sq  cm  iv) none of these

m) A conical tent is 10 m high and radius of the base isn24 m, Find Slant height of the tent.

i) 26 cm   ii) 26 m   iii) 25 m    iv0 none of these

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

i) 13728/7  m²  ii) 13728   m²     iii) 13728  cm²     iv) none of these

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

i) RS 13728    ii) Rs  137280     iii) Rs 13788  iv) none of these

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