GRADE -8   **Work sheet - MATHEMATICS**   2024-'25

CHAPTER -15   **SURFACEVAREA AND VOLUME:**

Name :………………………………….   **Date:………………..**

1. What is the curved surface area of a cylinder whose radius = $\frac{7}{2}$ cm and height = 7 cm?

   a) 154 cm²   b) 308cm²   c) 77cm²   d)none of these

2. How many small cubes with edge of 20cm each can be just accommodated in a cubical Box of 2m edge ?

   a)10   b)100   c) 1000   d) 10000

3. Total surface of right circular cylinder

   a) πr²h   b)2 πr²h   c)2πrh²   d)2πr(r+h)

4. The area of rhombus is given by

   a) ½ x sum of diagonals   b) ½ x product of diagonals   c)product of diagonals

   d) 2x product of diagonals

5. The edge of cube is 1m . Its surface area is given by

   a) 1m²   b)4m²   c)6m²   d)3m²

6) The edge of cube is 2m . its volume is given by

   a) 6m³   b)8m³   c)6m²   d)none of these

7. The area of parallelogram is given by

   a)base x height   b)1/2 x base x height   c)2 x base x height   d) none of these

8. Area of trapezium is given by

   a) 2 x height x (sum of parallel sides)   b)height x (sum of parallel sides)

   c)1/2 x height x(sum of parallel sides)   d)1/2 x (sum of parallel sides)

9. The sum of the parallel sides of trapezium is 8 cm. if its height is 2 cm, then its area is Given by :

   a) 8cm²   b) 16cm²   c)32cm²   d)none of the above

8) In a parallelogram, base = height = 1cm . What its area ?

   a)1cm²   b) 2cm²   c) 3cm²   d)4cm²

Short answer type questions :

1)What is the curved surface area of a cylinder whose radius = 72 cm and

 height = 14cm?

2)The area of a trapezium shaped field is 480 m² , the distance between two

  parallel sides is 15 m and one of the parallel side is 20 m. Find the other parallel side.

3) The diagonals of a rhombus are 7.5 cm and 12 cm. Find its area.

4) Find the side of a cube whose surface area is 600 cm²

5) The lateral surface area of a hollow cylinder is 4224 cm2 . It is cut along its

height and formed a rectangular sheet of width 33 cm. Find the perimeter of

rectangular sheet?

Very Short answer type questions:

1. Find the area of a rhombus whose diagonals are 8cm and 11cm.

2. Find the volume of cube whose edge is 2a.

3. Find the volume of cylinder of radius 1cm and height 7cm.

4. Find the height of cuboid whose surface area is 180cm². and volume is 900cm³

5. What is the surface area of a cylinder of radius r and height h.

 Write the formula for the following :

1. Total surface area of cuboid
2. Volume of cuboid
3. Area of 4 walls of cuboidal room
4. Curved surface area of cylinder
5. Lateral surface area of cube
6. Area of 4 walls and ceiling of a room
7. Volume of a cube.

ANSWER THE FOLLOWING QUESTIONS:

1. A cuboid of dimensions 60cm X54cm X 30cm. How many small cubes with side 6cm can be placed in the given cuboid?
2. The diagonal of a quadrilateral shaped field is 24 m and the perpendiculars dropped on it from the remaining opposite vertices are 8 m and 13 m. Find the area of the field.
3. Sonam painted the outside of the cabinet of measure 1 m × 2 m × 1.5 m. How much surface area did she cover if she painted all except the bottom of the cabinet
4. The area of a rhombus is 240 cm2 and one of the diagonals is 16 cm. Find the other diagonal.
5. A closed cylindrical tank of radius 7 m and height 3 m is made from a sheet of metal. How much sheet of metal is required?

6) If each edge of a cube is doubled, (i) How many times will its surface area increase? (ii) How many times will its volume increase?

6. Find the area to be painted in the following block with a cylindrical hole . Given that length is 15 cm, width 12cm, height 20cm and radius of the hole is 2.8cm
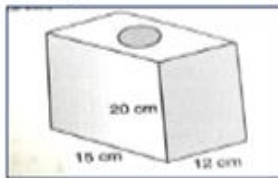
7. A swimming pool is 200m x 50m and has an average depth of 2m. by the end of a summer day, the water level drops by 2cm . How many cubic metres of water is lost on the day ?
5) Diameter of cylinder A is 7 cm, and the height is 14 cm. Diameter of cylinder B is 14 cm and height is 7 cm. Without doing any calculations can you suggest whose volume is greater? Verify it by finding the volume of both the cylinders. Check whether the cylinder with greater volume also has greater surface area