THE VILLAGE
INTERNATIONAL SCHOOL
"We Nurture Dreams"

AIM HIGH, TOGETHER WE FLY

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

CHAPTER -14   **AREAS OF POLYGONS**

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

MCQ:

1. 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

2. 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)

3. Total surface of right circular cylinder
   a) $\pi r^2 h$ b)2 $\pi r^2 h$ c)2πrh^2 d)2$\pi r(r+h)$

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 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

9) 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

10) 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

FILL IN THE BLANKS

i) Area of a rectangle = _____ (length × breadth)

ii) Perimeter of a rectangle = _____ [2(length + breadth) or 2(l + b)]

iii) Area of a square = _____ (side × side or s²)

iv) Perimeter of a square = _____ [4s]

v) Area of a triangle = _____ $\left(\frac{1}{2} \times base \times height\right)$

vi) Perimeter of a triangle = _____ [sum of the length of the sides]

vii) Area of a circle with radius r = _____ (πr²)

viii) Circumference of a circle = _____ (2πr)

ix Area of a parallelogram = _____ (base × height)

x Area of a rhombus = _____ $\left(\frac{1}{2} \times product\ of\ the\ diagonals\right)$

xi Area of a trapezium = _____ [$\frac{1}{2} \times$ (sum of parallel sides) × (distance between parallel sides)]

xii Area of any quadrilateral = _____ [$\frac{1}{2} \times d\ (h_1 + h_2)$]

SHORT ANSWER TYPE QUESTIONS

1) The area of a trapezium is 34 cm² and the length of one of the parallel sides is 10 cm and its height is 4 cm. Find the length of the other parallel side.

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) Find the area of a rhombus whose side is 5 cm and whose altitude is 4.8 cm. If one of its diagonals is 8 cm long, find the length of the other diagonal

LONG ANSWER TYPE QUESTIONS:

4) The internal measures of a cuboidal room are 12 m × 8 m × 4 m. Find the total cost of White washing all four walls of a room, if the cost of white washing is Rs. 5 per m².

5) Find the height of a cylinder whose radius is 7 cm and the total surface area is

968 cm².

6) Find the volume of a cube whose surface area is 600 cm².

7). Rukhsar 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.

8) A godown is in the form of a cuboid of measures 60 m × 40 m × 30 m. How many cuboidal boxes

can be stored in it if the volume of one box is 0.8 m³ ?

9) Given a cylindrical tank, in which situation will you find surface area and in which situation

volume. (a) To find how much it can hold. (b) Number of cement bags required to plaster it

10) Find the height of the cylinder whose volume is 1.54 m3 and diameter of the base is 140 cm?
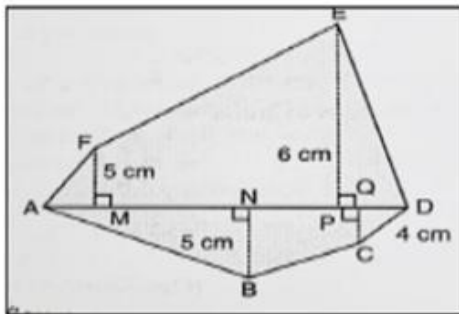
LONG ANSWER TYPEV QUESTION:

1) If each edge of a cube is tripled,
(i) how many times will its surface area increase?
(ii) how many times will its volume increase?
2) Find the area of the polygon ABCDEF , if AD= 18cm, AQ= 14cm ,AP = 12cm ,AN = 8cm, AM= 4cm, and FM,EP, QC and EN are perpendiculars to AD.

CASE STUDY BASED QUESTIONS

1) A box contains a cylinder and a cube . The height and radius of cylinder are 7cm and 14cm respectively. It has been observed that side of cube is half of the radius of cylinder.

Based on the above information answer the following questions

a)Find the side of the cube

b)Find the curved surface area of cylinder?

c) which has greater volume cube or cylinder? Why?

2) A company packages its milk powder in cylindrical containers whose base has a diameter of 16.8 cm and height 20.5 cm. company places a label 1.5cm from the top and the bottom around the curve surfaces of the containers as shown

On the basis of the above information anser the following questions

a) Find the radius of the base of the container

b) Find the height of the label

c) Find the area of the label