MATHS

BOOKS - FULL MARKS MATHS (TAMIL ENGLISH)

MENSURATION

Exercise 7 1

1. Using Heron's formula, find the area of a triangle whose sides are

(i) 10 cm, 24 cm, 26 cm

(ii) 1.8m, 8m, 8.2 m

2. The sides of the triangular ground are 22 m, 120 m and 122 m. Find the area and cost of leveling the ground at the rate of ₹ 20 per m^2.

3. The perimeter of a triangular plot is 600 m. If the sides are in the ratio 5 : 12 : 13, then find the area of the plot.

▶ Watch Video Solution

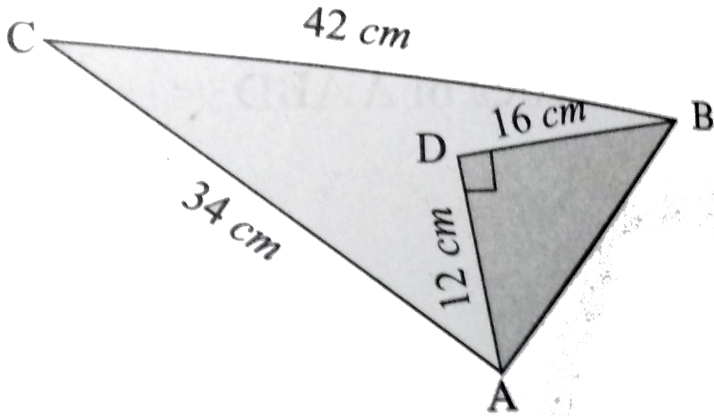**4.** Find the area of an equilateral triangle whose perimeter is 180 cm.

▶ Watch Video Solution

5. An advertisement board is in the form of an isosceles triangle with perimeter 36 m and each of the equal sides are 13 m. Find the cost painting it at ₹ 17.50 per square metre.

6. Find the area of the unshaded region.

7. Find the area of a quadrilateral ABCD whose sides are AB = 13cm, BC = 12cm, CD = 9cm, AD = 14cm and diagonal BD = 15cm.

8. A park is in the shape of a quadrilateral. The sides of the park are 15m, 20m, 26m, and 17m and the angle between the first two sides is a right angle. Find the area of the park.

9. A land is the shape of rhombus. The perimeter of the land is 160 m and one of the

diagonall is 48 m. Find the area of the land.

10. The adjacent sides of a parallelogram measures 34 m, 20 m and the measure of the diagonal is 42 m. Find the area of Parallelogram.

Exercise 7 2

1. Find the Total Surface Area and the Lateral Surface Area of a cuboil whose dimensions are length = 20 cm, breadth = 15 cm, height = 8 cm

2. The dimension of a cuboidal box are $6m \times 400cm \times 1.5m$. Find the cost of painting its entire outer surface at the rate of Rs. 22 per m^2

3. The dimensions of a hall $10m \times 9m \times 8m.$ Find the cost of white washing the walls and ceilling at the rate of ₹ 8.50 per $m^2.$

▶ Watch Video Solution

4. Find the TSA and LSA of the cube whose side is (i) 8 m (ii) 21 cm (iii) 7.5 cm

▶ Watch Video Solution

5. If the total surface area of a cube is $2400cm^2$ then, find its lateral surface area.

6. A cubical container of side 6.5 m is to be painted on the entire outer surface. Find the area to be painted and the total cost of painting it at the rate of ₹ 24 per m^2.

7. Three identical cubes of side 4 cm are joined end to end. Find the total surface area and lateral surface area of the new resulting cuboid.

▶ **Watch Video Solution**

Exercise 7 3

1. Find the volume of a cuboid whose diamensions are

(i) lemgth = 12 cm, breadth = 8 cm, heght = 6

cm

(ii) length = 60 m, breadth = 25 m, height = 1.5 m

2. The dimensions of a match box are $6cm \times 3.5cm \times 2.5cm$. Find the volume of a packet containing 12 such match boxes.

3. The length, breadth and height of a chocolate box are in the ratio 5 : 4 : 3. If its volume is $7500cm^3$, then find its dimensions.

4. The length, breadth and depth of a pond are 20.5 m, 16 m and 8 m respectively. Find the capacity of the pond in litres.

5. The dimensions of a brick are $24cm \times 12cm \times 8cm$. How many such bricks will be required to build a wall of 20 m length, 48 cm breadth and 6 m height?

6. The volume of container is $1440m^3$. The length and breadth of the container are 15 m and 8 m respectively. Find its height.

7. Find the volume of a cube each of whose side is (i) 5 cm (ii) 3.5 m (iii) 21 cm

8. A cubical milk tank holds 125000 litres of milk. Find the length of its side in metres.

9. A metallic cube with side 15 cm is melted and formed into a cuboid. If the length and height of the cuboid is 25 cm and 9 cm respectively then find the breadth of the cuboid.

▶ **Watch Video Solution**

Exercise 7 4 Multiple Choice Questions

1. The semi-perimeter of a triangle having sides 15 cm, 20 cm and 25 cm is

    A. 60 cm

    B. 45 cm

    C. 30 cm

    D. 15 cm

Answer: C

▶ **Watch Video Solution**

2. If the sides of a triangle are 3 cm, 4 cm and 5 cm, then the area is

A. $3 \ \mathrm{cm}^2$

B. $6 \ \mathrm{cm}^2$

C. $9 \ \mathrm{cm}^2$

D. $12 \ \mathrm{cm}^2$

Answer: B

▶ **Watch Video Solution**

3. The perimeter of an equilateral triangle is 30 cm. The area is

    A. $10\sqrt{3}$ cm^2

    B. $12\sqrt{3}$ cm^2

    C. $15\sqrt{3}$ cm^2

    D. $25\sqrt{3}$ cm^2

Answer: D

▶ **Watch Video Solution**

4. The lateral surface area of a cube of side 12 cm is . . . . . .

A. $144 \ cm^2$

B. $196 \ cm^2$

C. $576 \ cm^2$

D. $664 \ cm^2$

Answer: C

▶ **Watch Video Solution**

5. If the lateral surface area of a cube is $600cm^2$, then the total surface area is

    A. $150\ \text{cm}^2$

    B. $400\ \text{cm}^2$

    C. $900\ \text{cm}^2$

    D. $1350\ \text{cm}^2$

Answer: C

> ▶ **Watch Video Solution**

6. The total surface area of a cuboid with dimension $10cm \times 6cm \times 5cm$ is

A. $280 \ \text{cm}^2$

B. $300 \ \text{cm}^2$

C. $360 \ \text{cm}^2$

D. $600 \ \text{cm}^2$

Answer: A

▶ **Watch Video Solution**

7. If the ratio of the sides of two cubes are 2 : 3, then ratio of their surface areas will be

A. $4 : 6$

B. $4 : 9$

C. $6 : 9$

D. $16 : 36$

Answer: B

▶ **Watch Video Solution**

8. The volume of a cuboid is $660cm^3$ and the base is $33cm^2$. Its height is

▶ **Watch Video Solution**

9. The capacity of a water tank of dimensions $10m \times 5m \times 1.5m$ is

▶ **Watch Video Solution**

10. The number of bricks each measuring $50cm \times 30cm \times 20cm$ that will be required to

build a wall whose dimensions are $5m \times 3m \times 2m$ is

A. 1000

B. 2000

C. 3000

D. 5000

Answer: A

▶ Watch Video Solution

1. If the sides of a triangles are 5 cm ,8 cm and 9 cm then the area is . . . . . .

▶ **Watch Video Solution**

2. The perimeter of an equilateral triangle is 60 cm then the area of the triangle is . . . . . .

A. $60\sqrt{3}$ cm^2

B. $20\sqrt{3}$ cm^2

C. $50\sqrt{3}$ cm^2

D. $100\sqrt{3}$ cm^2

Answer: D

▶ **Watch Video Solution**

3. The total surface area of the cuboid with dimension $20cm \times 30cm \times 15cm$ is . . . . .

A. 2700 cm^2

B. $1500 \ \text{cm}^2$

C. $2500 \ \text{cm}^2$

D. $3000 \ \text{cm}^2$

Answer: A

▶ **Watch Video Solution**

---

4. The number of bricks each measuring $70cm \times 80cm \times 40cm$ that will be required to build a wall whose diamensions are $7m \times 8m \times 4m$ is ......

A. 4000

B. 3000

C. 2000

D. 1000

Answer: D

▶ **Watch Video Solution**

5. The volume of a cube is 4913 m^2 then the length of its side is ....

A. 13m

B. 17m

C. 34m

D. 27m

Answer: B

▶ **Watch Video Solution**

1. A fields is in the shape of a trapezium whose parallel sides are 25 m and 10m. The non parallel sides are 14m and 13m. Find the area of the field.

2. Find the area of a quadrilateral ABCD in which AB = 8 cm, BC = 6 cm, CD = 8 cm, DA = 10 cm and AC = 10 cm and $\underline{B} = 90°$.

3. The length, breadth and height of a room are 5m, 4m and 3m respectively. Find the cost of white washing the walls of the room and the ceiling at the rate of Rs. 7.50 per m^2.

4. How many hollow blocks of size $30cm \times 15cm \times 20cm$ are needed to construct a wall 60m in length 0.3 m in breadth and 2m in height.

5. Find the number of cubes of side 3 cm that can be cut from a cuboid of dimensions $10cm \times 9cm \times 6cm$

Assignment I Choose The Correct Answer

1. The quantity of space occupied by a body is its . . . . .

A. area

B. length

C. volume

D. L.S.A

Answer: C

▶ **Watch Video Solution**

2. The T.S.A of a cube of side 1 m is . . . .

A. $16m^2$

B. $4m^2$

C. $6m^2$

D. $36m^2$

Answer: C

▶ **Watch Video Solution**

3. The volume of tank measuring $5m \times 3m \times 2m$ in litres is . . . .

A. 30 lit

B. 60000 lit

C. 3000 lit

D. 30000 lit

Answer: D

4. The volume of a cube of side 7 cm is . . . .

A. $340 \ \text{cm}^3$

B. $46 \ \text{cm}^3$

C. $343 \ \text{cm}^3$

D. $42 \ \text{cm}^3$

Answer: C

▶ **Watch Video Solution**

5. The area of an equilateral triangle whose side "a" is . . . .

A. $\dfrac{\sqrt{3}}{4}a^2$

B. $\dfrac{\sqrt{3}a}{2}$

C. $\dfrac{\sqrt{3}a}{4}$

D. $\sqrt{\dfrac{3}{4}a^2}$

Answer: A

▶ **Watch Video Solution**

6. If the sides of a triangle are 5 cm, 7 cm and 8 cm, then its area is . . . .

A. $10 \ \text{cm}^2$

B. $10\sqrt{3} \ \text{cm}^2$

C. $3\sqrt{10} \ \text{cm}^2$

D. $30 \ \text{cm}^2$

Answer: B

▶ **Watch Video Solution**

7. The volume of a cube is 2197 m^2 then its side is . . . .

    A. 39m

    B. 10m

    C. 26m

    D. 13m

Answer: D

▶ **Watch Video Solution**

1. Find the area of a quadrilateral ABCD where AB = 7 cm, DA = 15 cm, AC = 9 cm, BC = 6 cm and CD = 12 cm.

> ▶ **Watch Video Solution**

2. A triangle and a parallelogram have the same base and the same area. If the sides of the triangle are 26 cm, 28 cm and 30 cm, and

the parallelogram stands on the base 28 cm, find the height of the parallelogram.

3. The paint in a certain container is sufficient to paint an area equal to $9.375 \ m^2$. How many bricks of dimensions $22.5 \ cm \ \times \ 10 \ cm \ \times \ 7.5 \ cm$ can be painted out of this container? (i) Which box has the greater lateral

4. A godwon measures $40m$ x $25m$ x $10m$. Find the maximum number of wooden crates each measuring $1.5m$ x $1.25m$ x $0.5m$ that can be stored in the godown.

▶ **Watch Video Solution**

5. A village, having a population of 4000, requires 150 litres of water per head per day. It has a tank measuring

$20\ m \times\ 15\ m \times\ 6\ m$. For how many days will the water of this tank last?

> ▶ **Watch Video Solution**

6. Two cube's each of volume of $64 cm^3$ are joined to form a cuboid. Find the L.S.A and T.S.A. of the resulting solid.

> ▶ **Watch Video Solution**

7. Ramkumar wanted to paint the walls and ceiling of a hall. The dimensions of the hall is $20m \times 15m \times 6m$. Find the area of surface to be painted and the cost of painting it at Rs.78 Per sq.m.

▶ **Watch Video Solution**

8. A rhombus shaped field has green grass for 18 cows to graze. If each side of the rhombus is 30 m and its longer diagonal is 48 m, how

much area of grass field will each cow be getting?