



MATHS

BOOKS - SURA MATHS (TAMIL ENGLISH)

MENSURATION

Exercise 7 1

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

10 cm, 24 cm, 26 cm



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

1.8 m, 8 m, 8.2 m



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3. 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 .



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4. 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.



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



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6. 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.



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7. Find the area of a quadrilateral ABCD whose sides are $AB = 13\text{cm}$, $BC = 12\text{cm}$, $CD = 9\text{cm}$, $AD =$

14cm and diagonal $BD = 15\text{cm}$.



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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.



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9. A land is in the shape of rhombus. The perimeter of the land is 160 m and one of the diagonal is 48 m. Find the area of the land.



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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.



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Exercise 7 2

1. Find the total surface area and the lateral surface area of a cuboid whose dimensions are
(i) length = 20 cm, breadth = 15 cm, height = 8 cm



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2. The dimensions of a cuboidal box are $6m \times 400cm \times 1.5m$. Find the cost of

painting its entire outer surface at the rate of ₹ 22 per m^2 .



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3. The dimensions of a hall $10m \times 9m \times 8m$.

Find the cost of white washing the walls and ceiling at the rate of ₹ 8.50 per m^2 .



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



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



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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 .



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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.





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Exercise 7 3

1. Find the volume of a cuboid whose dimensions are

length = 12 cm, breadth = 8 cm, height = 6 cm



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2. Find the volume of a cuboid whose dimensions are

length = 60 m, breadth = 25 m, height = 1.5 m



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



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4. 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.



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5. 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.



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6. The dimensions of a brick are $24\text{cm} \times 12\text{cm} \times 8\text{cm}$. How many such bricks

will be required to build a wall of 20 m length, 48 cm breadth and 6 m height?



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



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



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



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10. 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.



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Exercise 7 4

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:



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

A. 3cm^2

B. 6cm^2

C. 9cm^2

D. 12cm^2

Answer:



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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:



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

A. 144cm^2

B. 196cm^2

C. 576cm^2

D. 664cm^2

Answer:



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

A. 150cm^2

B. 400cm^2

C. 900cm^2

D. 1350cm^2

Answer:



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

A. 280cm^2

B. 300cm^2

C. 360cm^2

D. 600cm^2

Answer:



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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:



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

A. 10 cm

B. 12 cm

C. 20 cm

D. 22 cm

Answer:



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9. The capacity of a water tank of dimensions

$10m \times 5m \times 1.5m$ is

A. 75 litres

B. 750 litres

C. 7500 litres

D. 75000 litres

Answer:



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10. The number of bricks each measuring $50\text{cm} \times 30\text{cm} \times 20\text{cm}$ that will be required to build a wall whose dimensions are $5\text{m} \times 3\text{m} \times 2\text{m}$ is

A. 1000

B. 2000

C. 3000

D. 5000

Answer:



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Additional Questions And Answers Exercise 7 1

1. Using Heron's formula, find the area of a triangle whose sides are 41 m, 15 m, 25 m.



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2. Find the area of an equilateral triangle whose perimeter is 150 m.



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Additional Questions And Answers Exercise 7 2

1. Find the TSA and LSA of a cuboid whose length, breadth and height are 10 cm, 12 cm and 14 cm respectively.



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2. A cuboid has total surface area of $40m^2$ and its lateral surface area is $26m^2$. Find the area of its base.



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3. Find the surface area of a cube whose edge

is

27 cm



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4. Find the surface area of a cube whose edge

is

3 cm



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5. Find the surface area of a cube whose edge is

6 cm



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6. Find the surface area of a cube whose edge is

2.1 cm



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Additional Questions And Answers Exercise 7 3

1. Find the volume of a cube whose surface area is 96cm^2 .



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2. The volume of a cuboid is 440cm^3 and the area of its base is 88cm^2 , find its height.



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3. How many 3 metre cubes can be cut from a cuboid measuring $18m \times 12m \times 9m$?



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4. The outer dimensions of a closed wooden box are $10cm$ by $8cm$ by $7cm$. Thickness of the wood is $1cm$. Find the total cost of wood required to make box if $1 cm^3$ of wood costs $Rs\ 2.00$



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Unit Test

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