MATHS

BOOKS - BAL BHARTI

MENSURATION

Solved Examples

1. The radius and height of cylindrical water reservoir is 2.8 m and 3.5 m respectively. How much maximum water can the tank hold? A

person needs 70 liters ofr water per day. For how many persons is the water sufficient for a day? $\left(\pi = \dfrac{22}{7}.\right)$.

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2. How many solid cylinders of radius 10 cm and height 6 cmn can be made by melting a silid sphere of radius 30 cm?

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3. If the radius of the base of the cylinder is 7 cm and its height is 15 cm, then find its volume

4. A washing tub in the shape of a frustum of a cone has height 21 cm. The radii of the circular top and bottom are 20 cm and 15 cm respectively. What is the capacity of the tub? $\left(\pi = \dfrac{22}{7}\right)$

5. The radii of ends of a frustum are 14 cm and 6 cm respectively and its height is 6 cm. Find its Curverd surface area,

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Practice Set 7 1

1. Find the volume of cone if the radius of its base is 1.5 cm and its perpendicular height is 5 cm.

2. Find the volume of the shpere of diameter 6 cm. $(\pi = 3.14)$

3. Find the total surface area of a cylinder if the radius of its base is 5 cm and height is 40 cm.

4. Find the surface area of sphere of radius 7 cm.

5. The dimensions of a cuboid are 44 cm, 21 cm, 12 cm. It is melted and a cone of heigth 24 cm is made. Find the radius of its base.

1. The radii of two circular ends of frustum shaped bucket are 14 cm and 7 cm. Height of the bucket is 30 cm. How many litres of water it can hold? (1 litre = 1000 cm^3)

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2. The radii of ends of a frustum are 14 cm and 6 cm respectively and its height is 6 cm. Find its Curverd surface area,

Practice Set 7 3

1. Radius of a circle is 10 cm. Measure of an arc of the circle $54°$. Find the area of the sector associated with the arc. $(\pi = 3.14)$

2. Measure of an arc of a circle is 80 cm and its radius is 18 cm. Find the length of the arc $(\pi = 3.14)$

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3. Radius of a sector of a circle is 3.5 cm and length of its arc is 2.2 cm. Find the area of the sector.

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4. Radius of a circle is 10 cm. Area of a sector of the circle is 100 cm^2. Find the area of its corresponding major sector. $(\pi = 3.14)$

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5. Area of sector of a circle of radius 15 cm is 30 cm^2. Find the length of the arc of the sector.

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6. Radius of a sector of a circle is 7 cm. If measure of arc of the sector is (1) $30°$ (2) $210°$ (3) three right angles, find the area of the sector in each case

7. The area of a minor sector of a circle is 3.85 cm^2 and the measure of its central angle is $36°$. Find the radius of the circle.

1. A chord PQ of circle with radius 15 cm subtends an angle of $60°$ with the centre of the circle. Find the area of the minor as well as the major segment. $\left(\pi = 3.14, \sqrt{3} = 1.73\right)$

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Problem Set 7 Choose The Correct Alternative Answer

1. Choose the correct alternative answer for the following question: The ratio of circumference and area of a circle is 2:7. Find its circumference. (A) 14π (B) $\dfrac{7}{\pi}$ (C) 7π (D) $\dfrac{14}{\pi}$

A. 14π

B. $\dfrac{7}{\pi}$

C. 7π

D. $\dfrac{14}{\pi}$

Answer: A

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2. If measure of an arc of circle is $160°$ and its length is 44 cm, find the circumference of the circle. (A) 66cm (B) 44cm (C) 160cm (D) 99cm

    A. 66 cm

    B. 44 cm

    C. 160 cm

    D. 99 cm

Answer: D

3. Find the perimeter of a sector of a circle if its measure is $90°$ and radius is $7cm$. a)$44cm$ b)$25cm$ c)$36cm$ d)$56cm$

    A. 44 cm

    B. 25 cm

    C. 36 cm

    D. 56 cm

Answer: B

4. Find the surface area of sphere of radius 7 cm.

    A. $440 cm^2$

    B. $550 cm^2$

    C. $330 cm^2$

    D. $110 cm^2$

Answer: B

5. The curved surface area of a cylinder is 440 cm^2 and its radius is 5 cm. Find its height.

A. $\dfrac{44}{\pi} cm$

B. $22\pi cm$

C. $44\pi cm$

D. $\dfrac{22}{\pi} cm$

Answer: A

6. A cone was melted and cast into a cylinder of the same radius as that of the base of the cone. If the height of the cylinder is 5cm, find the height of the cone.

    A. 15 cm

    B. 10 cm

    C. 18 cm

    D. 5 cm

Answer: A

7. Find the volume of a cube of side 0.01 cm.

A. $1 cm^3$

B. $0.001 cm^3$

C. $0.0001 cm^3$

D. $0.000001 cm^3$

Answer: D

8. Find the side of a cube of volume $1 \; m^3$.

A. 1 cm

B. 10 cm

C. 100 cm

D. 1000 cm

Answer: C

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Problem Set 7

1. A washing tub in the shape of a frustum of a cone has height 21 cm. The radii of the circular top and bottom are 20 cm and 15 cm respectively. What is the capacity of the tub? $\left(\pi = \dfrac{22}{7} \right)$

2. Some plastic balls of radius 1 cm were melted and cast into a tube. The thickness, length and outer radius of the tube were 2 cm,

90 cm, and 30 cm respectively. How many balls were melted to make the tube?

3. A metal parallelopiped of measure 16 cm $\times$ 11 cm $\times$ 10 cm was melted to make coins. How many coins were made if the thickness and diameter of each coin was 2 mm and 2 cm respectively?

4. The diameter and length of a roller is 120 cm and 84 cm respectively. To level the ground, 200 rotations of the roller are required. Find the expenditure to level the ground at the rate of ~ 10 per sq. m.

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5. The diameter and thickness of a hollow metallic sphere are 12 cm and 0.01 m respectively. The density of the metal is 8.88

gm per cm^3. Find the outer surface area and mass of the sphere.

6. A cylinder bucket of diameter 28 cm and height 20 cm was full of sand. When the sand in the bucket was poured on the ground, the sand got converted into a shape of a cone. If the height of the cone was 14 cm, what was the base area of the cone?

7. The radius of a metallic sphere is 9 cm. It was melted to make a wire of diameter 4 mm. Find the length of the wire.

8. The area of a sector of a circle of 6 cm radius is 15π sq. cm. Find the measure of the arc and length of the arc corresponding to the sector.