



Mensuration Questions - Download PDF now!

Mensuration questions are a common type of questions regularly asked in competitive exams. These questions carry a weightage of 1-2 questions(2-4 marks) in SSC exams and 1-2 questions(1-2 marks) bank exams. To perform well in competitive exams, your mensuration concepts should be clear.

Here are some tips for solving Mensuration questions: Familiarize yourself with formulas for various 2D and 3D shapes, Visualize shapes to better understand relationships between dimensions and Work on a range of problems involving different shapes to enhance skills.

So, we have attached 10 questions of Mensuration for you to practice with. You should aim to solve these questions in less than half a minute for each.

## Practice Questions on Mensuration

You can also download the Mensuration questions and answers pdf. Just click on the **Download PDF** button. So let's start with the very first question.

**Q:1** There is a semi-circular park of a radius of 70m in the city. The mayor decided to fence the border of the park. The cost of fencing is Rs.50/m then what is the total cost in dollars? ( $1\$ = \text{Rs.}80$ )

1. 137.5
2. 225
3. 150
4. 200

(**Difficulty:** 2, **Estimated Time:** 15 Seconds) This was an easy one. Did get it right?

**Q:2** The circular path has an inner diameter and the outer diameter 330 m and 358 m respectively. Find the area of the circular path.

1.  $644 \pi \text{ m}^2$
2.  $688 \pi \text{ m}^2$
3.  $988 \pi \text{ m}^2$
4.  $4816 \pi \text{ m}^2$

(**Difficulty:** 3, **Estimated Time:** 20 Seconds) This was a simple one, don't get stuck in unnecessary calculations!

**Q:3** Find the number of revolutions of the wheel of a bicycle to cover a distance of 22 km if the radius of the wheel is 50 cm.



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1. 3500
2. 7000
3. 2200
4. 6500

(**Difficulty: 2, Estimated Time: 15 Seconds**) A question of seconds.....

**Q:4** The length and breadth of a rectangular sheet are 24 m and 15 m respectively. 4 triangles are cut from all 4 corners with base 5 m and height 6 m. Find the area of remaining part of rectangle.

1. 360 m<sup>2</sup>
2. 250 m<sup>2</sup>
3. 280 m<sup>2</sup>
4. 300 m<sup>2</sup>

(**Difficulty: 3, Estimated Time: 20 Seconds**) It is not an easy one but I think now you're prepared for it.

**Q:5** The area of the rectangle is four times the area of the square. If the length of the rectangle is 60 cm and the breadth of the rectangle is equal to the side of the square, then find the side of the square.

1. 20 cm
2. 25 cm
3. 18 cm
4. 15 cm

(**Difficulty: 3, Estimated Time: 20 Seconds**) We're halfway through. Have you got all your questions correct so far?

**Q:6** Area of the circle of diameter 28 cm is equal to the perimeter of the rectangle in magnitude whose length is 8 cm more than its breadth. Find the area of the rectangle.

1. 27300 cm<sup>2</sup>
2. 234500 cm<sup>2</sup>
3. 23700 cm<sup>2</sup>
4. 21500 cm<sup>2</sup>

(**Difficulty: 2, Estimated Time: 15 Seconds**) Should we raise the level of questions?

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**Q:7** The cost of fencing a square lawn at Rs. 20 per metre is Rs. 1200. Find the area of the square lawn.

1. 225 m<sup>2</sup>
2. 400 m<sup>2</sup>
3. 3600 m<sup>2</sup>
4. 900 m<sup>2</sup>

(**Difficulty: 3, Estimated Time: 20 Seconds**) Try using short tricks to save time..

**Q:8** A triangle is cut from inside a circle in such a way that one of its bases coincides with the diameter of length 14 cm and another base of the triangle makes 45° with the diameter of the circle. Find the remaining area of the circle.

1. 616 cm<sup>2</sup>
2. 580 cm<sup>2</sup>
3. 105 cm<sup>2</sup>
4. 154 cm<sup>2</sup>

(**Difficulty: 3, Estimated Time: 20 Seconds**) This was a bit calculative one...

**Q:9** A prism of square base with its sides of 12cm. Find the volume of prism if its height is 10.5 cm?

1. 1512 cm<sup>3</sup>
2. 1528 cm<sup>3</sup>
3. 3024 cm<sup>3</sup>
4. 3056 cm<sup>3</sup>

(**Difficulty: 3, Estimated Time: 20 Seconds**) Try decreasing time in your calculations

**Q:10** In the figure given below, ABCD is a rhombus. If the perimeter of the triangle AOB is 12 cm and the product of the lengths and the diagonals of the rhombus is 48 cm<sup>2</sup>. What is the perimeter (in cm) of the rhombus?

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- 1. 16
- 2. 20
- 3. 24
- 4. 28

(Difficulty: 2, Estimated Time: 15 Seconds) Did you guess them all correctly?

## Answer Key

Let's check out your score in this test.

1. (2)	2. (4)	3. (2)	4. (4)	5. (4)
6. (3)	7. (1)	8. (3)	9. (1)	10. (2)

Comment below your score, considering each question has 1 mark only. If you scored 8 to 10, congratulations! You are one step closer to selection. If you have scored 5 to 8 marks, then you are doing well, keep it up. If you have scored less than 5 marks then you need to work a little harder on this subject. But don't worry, we are here to help you master the subject.

Let's check the answers and solutions and try to find out what went wrong.

## Answers and Solutions

**Q:1** The correct answer is **Option 2** i.e. **225**.

Perimeter of the semi-circular park =  $(2\pi r)/2 + 2r$

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$$\Rightarrow \pi r + 2r = r(\pi + 2)$$

$$\Rightarrow 70 \times (22/7 + 2)$$

$$\Rightarrow 70 \times (36/7) = 360\text{m}$$

$$\text{Cost of fencing} = 360 \times 50$$

$$\Rightarrow \text{Rs.18000}$$

Converting Indian currency to \$

$$\Rightarrow 18000/80$$

$$\Rightarrow 225\$$$

**Q:2** The correct answer is **option 4** i.e. **4816  $\pi$  m<sup>2</sup>**.

$$\text{Area of the circular path} = \pi(R + r)(R - r)$$

Where R is the outer radius and r is the inner radius

$$\text{The inner radius of a circular path } r = 330/2 = 165 \text{ m}$$

$$\text{The outer radius of a circular path } R = 358/2 = 179 \text{ m}$$

$$\text{The area of the circular path} = \pi (179 + 165)(179 - 165) \text{ m}^2 = 4816 \pi \text{ m}^2$$

**Trick:** Since the numbers are very large and we know that (14 x three-digit number) is always greater than 1000. So, just by seeing the option, we can conclude that the answer should be **option 4**

**Q:3** The correct answer is **Option 2** i.e. **7000**.

The number of revolution = total distance/circumference of the circle

$$= \text{Distance}/2\pi r$$

$$\text{The radius of the wheel} = 50 \text{ cm} = 1/2 \text{ metre}$$

$$\text{Number of revolution} = (22000)/\{2 \times (22/7) \times 1/2\} = 7000$$

**Q:4** The correct answer is **Option 4** i.e. **300 m<sup>2</sup>**.

Given,

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Length of rectangle = 24 m

Breadth of rectangle = 15 m

Area of rectangle = Length  $\times$  Breadth =  $24 \times 15 = 360 \text{ m}^2$

Area of 1 triangle =  $(1/2) \times \text{base} \times \text{height} = (1/2) \times 5 \times 6 = 15 \text{ m}^2$

Also, Base of triangle = 5m and, Height of triangle = 6 m

Since the base and height of all triangles are the same so, the area of all 4 triangles is equal

Area of 4 triangles =  $15 \times 4 = 60 \text{ m}^2$

Therefore, the Area of the remaining part =  $360 - 60 = 300 \text{ m}^2$

**Q:5** The correct answer is **Option 4** i.e. **15 cm**.

Suppose

The breadth of the rectangle = Side of the square = a cm

According to the question:

Length  $\times$  Breadth =  $4(\text{Side})^2$

$\Rightarrow 60 \times a = 4a^2$

$\Rightarrow a = 15 \text{ cm}$

Hence, side of the square = 15 cm

**Q:6** The correct answer is **option 3** i.e. **23700 cm<sup>2</sup>**.

Area of Circle =  $\pi \times r^2$ , Where r = Radius of the circle = 14 cm

Area =  $\pi \times 14 \times 14 = 22/7 \times 14 \times 14 = 616 \text{ cm}^2$

But this is equal to the perimeter of the rectangle in magnitude

Hence,

Perimeter of the rectangle =  $2 \times (L + B) = 616 \text{ cm}$ , Where L = Length, B = Breadth

And  $L = (B + 8)$



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So,

$$2 \times (L + B) = 616$$

$$\Rightarrow B + 8 + B = 308$$

$$\Rightarrow 2B = 300 = B = 150 \text{ and } L = 158$$

Hence,

$$\text{Area} = L \times B = 150 \times 158 = 23,700 \text{ cm}^2$$

**Q:7** The correct answer is **option 1** i.e. **225 m<sup>2</sup>**

The cost of fencing

= Cost of fencing per meter  $\times$  perimeter of the square.

Cost of fencing per metre = Rs 20 per metre

Total cost = Rs 1200

The perimeter of the square =  $1200/20 = 60$

$4 \times \text{side} = 60$

Side = 15

Area of the square lawn =  $(15)^2 = 225 \text{ m}^2$

**Q:8** The correct answer is **option 3** i.e. **105 cm<sup>2</sup>**.

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$$\text{Area of circle} = \pi r^2$$

$$\text{Area of triangle} = (1/2) \times \text{base} \times \text{height}$$

$$\text{Diameter} = 14 \text{ cm}$$

$$\text{Radius} = 7 \text{ cm}$$

$$\angle ABC = 45^\circ$$

$$\angle OCB = 45$$

$$\angle BOC = 90$$

So, triangle OBC is a right isosceles triangle.

OC is perpendicular to AB and  $OC = OB$

$$\text{Area of triangle} = (1/2) \times 14 \times 7 = 49 \text{ cm}^2$$

$$\text{Area of circle} = (22/7) \times 7 \times 7 = 154 \text{ cm}^2$$

$$\text{Area of remaining part} = 154 - 49 = 105 \text{ cm}^2$$

**Q:9** The correct answer is **Option 1** i.e. **1512 cm<sup>3</sup>**.

Area of base of prism = base area  $\times$  height

$$\text{Area of square} = \text{side}^2 = 12^2 = 144 \text{ cm}^2$$

$$\text{Height} = 10.5 \text{ cm} = 21/2 \text{ cm}$$

$$\text{Volume} = 144 \times 21/2 = \mathbf{1512 \text{ cm}^3}$$

**Q:10** The correct answer is **Option 2** i.e. **20**.

Let the lengths of AC and BD be  $2x$  and  $2y$  respectively

$$AO = AC/2 = x$$

$$BO = BD/2 = y \text{ [}\because \text{Diagonals bisect each other at right angles]}$$

$$AB = \sqrt{(x^2 + y^2)} \text{ [}\because \text{Pythagoras theorem]}$$

$$\text{Perimeter of AOB} = AB + AO + BO$$





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$$\Rightarrow 12 = \sqrt{(x^2 + y^2)} + x + y$$

$$\text{Product of diagonals} = 2x \times 2y = 48$$

$$\Rightarrow xy = 12$$

$$\Rightarrow 12 = \sqrt{\{(x + y)^2 - 2xy\}} + x + y$$

$$\text{Let } x + y = t$$

$$\Rightarrow 12 = \sqrt{(t^2 - 24)} + t$$

$$\Rightarrow 12 - t = \sqrt{(t^2 - 24)}$$

Squaring on both sides

$$\Rightarrow 144 + t^2 - 24t = t^2 - 24$$

$$\Rightarrow 168 = 24t$$

$$\Rightarrow t = 7$$

$$\Rightarrow x + y = 7$$

$$\Rightarrow xy = 12$$

$$\Rightarrow x(7 - x) = 12$$

$$\Rightarrow 7x - x^2 = 12$$

$$\Rightarrow x^2 - 7x + 12 = 0$$

$$\Rightarrow (x - 4)(x - 3) = 0$$

$$\Rightarrow x = 4 \text{ or } 3$$

$$\Rightarrow y = 3 \text{ or } 4$$

$$\therefore AB = \sqrt{(x^2 + y^2)} = 5 \text{ cm}$$

$$\text{Perimeter} = 4 \times \text{Side} = 4 \times 5 = 20 \text{ cm}$$

So, this is it for today. We will meet again with another new topic. Till then, you can practice the questions again by downloading the PDF of Mensuration.