

## Mensuration Problems for Bank Exams with Solutions Pdf

1. A rectangular room can be partitioned into two equal square rooms by a partition 7 metres long. What is the area of the rectangular room in square metres?

- a. 49
- b. 147
- c. 196
- d. 98

Ans: D

Length of the room =  $(7 + 7)$  m = 14 m. Breadth of the room = 7 m.

$\therefore$  Area of the room =  $(14 \times 7)$  m<sup>2</sup> = 98 m<sup>2</sup>.

2. The length of the side of a square whose area is four times the area of a square with side 25 m is

- a. 12.5 m
- b. 50 m
- c. 100 m
- d. 125 m

Ans: B

Area of given square =  $(25 \times 25)$  m<sup>2</sup> = 625 m<sup>2</sup>.

Area of new square =  $(625 \times 4)$  m<sup>2</sup> = 2500 m<sup>2</sup>.

$\therefore$  Side of new square =  $\sqrt{2500}$  m = 50 m.

3. The cost of cultivating a square field at the rate of Rs. 685 per hectare is Rs. 6165. The cost of putting a fence around it at the rate off Rs. 48.75 per metre would be

- a. Rs. 23400
- b. Rs. 52650

c. Rs. 58500

d. Rs. 117000

Ans: C

$$\text{Area} = \frac{\text{Total cost}}{\text{Rate}} = \left( \frac{6165}{685} \right) \text{hectares} = (9 \times 10000) \text{ m}^2.$$

$$\therefore \text{Side of the square} = \sqrt{90000} \text{ m} = 300 \text{ m}.$$

$$\text{Perimeter of the field} = (300 \times 4) \text{ m} = 1200 \text{ m}.$$

$$\text{Cost of fencing} = ₹ (1200 \times 48.75) = ₹ 58500.$$

4. 50 square stone slabs of equal size were needed to cover a floor area of 72 sq.m. The length of each stone slab is

a. 102 cm

b. 120 cm

c. 201 cm

d. 210 cm

Ans: B

$$\text{Area of each slab} = \left( \frac{72}{50} \right) \text{ m}^2 = 1.44 \text{ m}^2.$$

$$\therefore \text{Length of each slab} = \sqrt{1.44} \text{ m} = 1.2 \text{ m} = 120 \text{ cm}.$$

5. A circular wire of diameter 42 cm is bent in the form of a rectangle whose sides are in the ratio 6 : 5. Find the area of the rectangle.

We have:  $r = 21$  cm.

Perimeter of the rectangle = Circumference of the circle

$$= \left( 2 \times \frac{22}{7} \times 21 \right) \text{cm} = 132 \text{ cm.}$$

Let the sides of the rectangle be  $6x$  and  $5x$ .

Then,  $2(6x + 5x) = 132 \Rightarrow 11x = 66 \Rightarrow x = 6$ .

So, the sides of the rectangle are 36 cm and 30 cm.

Area of the rectangle =  $(36 \times 30) \text{ cm}^2 = 1080 \text{ cm}^2$ .

6. A rectangular farm has to be fenced on one long side, one short side and the diagonal. If the cost of fencing is Rs. 100 per m, the area of the farm is  $1200 \text{ m}^2$  and the short side is 30 m long, how long would the job cost?

a. Rs. 7000

b. Rs. 12000

c. Rs. 14000

d. Rs. 15000

Ans: B

$$\text{Length} = \left( \frac{1200}{30} \right) \text{m} = 40 \text{ m.}$$

$$\text{Diagonal} = \sqrt{(40)^2 + (30)^2} \text{ m} = 50 \text{ m.}$$

$$\text{Length to be fenced} = (40 + 30 + 50) \text{ m} = 120 \text{ m.}$$

$$\therefore \text{Cost of fencing} = ₹ (120 \times 100) = ₹ 12000.$$

7. The area of a square is three fifths the area of a rectangle. The length of the rectangle is 25 cm and its breadth is 10 cm less than its length. What is the perimeter of the square?

a. 44 cm

b. 60 cm

c. 80 cm

d. cannot be determined

**Ans: B**

Length of rectangle = 25 cm;

Breadth of rectangle = 15 cm.

$$\text{Area of rectangle} = (25 \times 15) \text{ cm}^2 = 375 \text{ cm}^2.$$

$$\begin{aligned}\therefore \text{Area of square} &= \left(\frac{3}{5} \times 375\right) \text{ cm}^2 = 225 \text{ cm}^2 \quad \text{Side of square} \\ &= \sqrt{225} \text{ cm} = 15 \text{ cm.}\end{aligned}$$

$$\text{Perimeter of square} = (4 \times 15) \text{ cm} = 60 \text{ cm.}$$

**8. A man walking at the speed of 4 kmph crosses a square field diagonally in 3 minutes. The area of the field is**

**a.  $18000 \text{ m}^2$**

**b.  $19000 \text{ m}^2$**

**c.  $20000 \text{ m}^2$**

**d.  $25000 \text{ m}^2$**

**Ans: C**

$$\text{Speed of the man} = \left(4 \times \frac{5}{18}\right) \text{ m/s} = \frac{10}{9} \text{ m/s.}$$

$$\text{Time taken} = (3 \times 60) \text{ sec} = 180 \text{ sec.}$$

$$\text{Length of diagonal} = (\text{speed} \times \text{time}) = \left(\frac{10}{9} \times 180\right) \text{ m} = 200 \text{ m.}$$

$$\begin{aligned}\text{Area of the field} &= \frac{1}{2} \times (\text{diagonal})^2 \\ &= \left(\frac{1}{2} \times 200 \times 200\right) \text{ m}^2 = 20000 \text{ m}^2.\end{aligned}$$

**9. Total area of 64 small squares of a chessboard is 400 sq.cm. There is 3 cm wide border around the chess board. What is the length of the side of the chessboard?**

**a. 17 cm**

b. 20 cm

c. 23 cm

d. 26 cm

Ans: D

$$\text{Area of each small square} = \left(\frac{400}{64}\right) \text{cm}^2 = 6.25 \text{ cm}^2.$$

$$\text{Side of each small square} = \sqrt{6.25} \text{ cm} = 2.5 \text{ cm}.$$

Since there are 8 squares along each side of the chessboard, we have :

$$\text{Side} = [(8 \times 2.5) + 6] \text{ cm} = 26 \text{ cm}.$$

10. What percentage of the numbers from 1 to 50 have squares that end in the digit 1?

a. 1

b. 5

c. 10

d. 11

e. 20

Ans: D

The squares of numbers having 1 and 9 as the unit's digit end in the digit 1.

Such numbers are: 1, 9, 11, 19, 21, 29, 31, 39, 41, 49 i.e., there are 10 such numbers.

$$\therefore \text{Required percentage} = \left(\frac{10}{50} \times 100\right)\% = 20\%.$$