Mensuration

Test

Time - 45 minutes **Maximum Marks - 20**

Important Instructions

- This test contains 20 questions.
- Each question has FOUR options (1), (2), (3) and (4). ONLY ONE of these four options is correct.
- For each question, marks will be awarded in one of the following categories.
  Full Marks : +1 : If only correct answer is given.
  Zero Marks : 0 : If no answer is given.
  Negative Marks : There is no negative marking.

Direction: (Q.1 to 4) Match the Column-I with Column-II and choose the correct option.

Column-I		Column-II	
(A)	Perimeter of square whose area 100 sq.cm	(p)	14 cm
(B)	1 sq. m is equal to	(q)	9 cm
(C)	Area of rectangle is 144 sq.cm, its length is 16 cm, then its breadth is	(r)	100 × 100 sq.cm
(D)	Perimeter of a triangle is 42 cm. If two of its sides are 16 cm and 12 cm, then its third side is	(s)	40 cm

1. Option A matches with

(1) p (2) q (3) r (4) s

2. Option B matches with

(1) p (2) q (3) r (4) s

3. Option C matches with

(1) p (2) q (3) r (4) s

4. Option D matches with

(1) p (2) q (3) r (4) s

Direction (Q.5 to Q.8) : Match the column-I to column-II and choose the correct option.

Column-I		Column-II	
(A)	Side length of a square of area 256 sq. units is (in units)	(p)	15
(B)	Perimeter of equilateral triangle with side length 5 units is (in units)	(q)	16
(C)	Find the breadth of rectangle whose length is 70 cm and perimeter is 200 cm (in cm)	(r)	30
(D)	The perimeter of a triangle of sides 12 cm, 5 cm and 15 cm is (in cm)	(s)	32

5. Option A matches with

(1) p (2) q (3) r (4) s

6. Option B matches with

(1) p (2) q (3) r (4) s

7. Option C matches with

(1) p (2) q (3) r (4) s

8. Option D matches with

(1) p (2) q (3) r (4) s

9. Two sides of triangle are 15 cm and 12 cm. The perimeter of the triangle is 36 cm. What is its third side?

(1) 7 cm (2) 8 cm (3) 9 cm (4) None of these

10. If perimeter of regular heptagon is 98 cm, then its side will be

(1) 7 cm (2) 14 cm (3) 28 cm (4) 10 cm

11. The perimeter of the top of rectangular table is 28 cm and breadth is 4 cm. What is the length of the table?

(1) 10 cm (2) 20 cm (3) 5 cm (4) 15 cm

12. A playground is rectangular in shape. If its length is 40 m and width 60 m, find its perimeter.

(1) 100 m (2) 150 m (3) 200 m (4) 300 m

13. The length of a rectangle is $\left(\frac{6}{5}\right)^{th}$ of its breadth. If its perimeter is 132 m. Find its length.

(1) 30 m (2) 36 m (3) 25 m (4) 35 m

14. A lane 150 m long and 9 m wide to be paved with bricks, each measuring 22.5 cm by 7.5 cm. How many bricks are required ?

(1) 65000 (2) 70000 (3) 75000 (4) 80000

15. The perimeter of a triangle is 42 cm. If two of its sides are 16 cm and 12 cm, find its third side.

(1) 12 cm (2) 14 cm (3) 16 cm (4) 28 cm

16. A room is 13 m long and 9 m broad. Find the cost of carpeting the room with a carpet 75 cm broad at ₹50 per meter.

(1) ₹15600 (2) ₹7800 (3) ₹15600 ÷ 2 (4) ₹51200

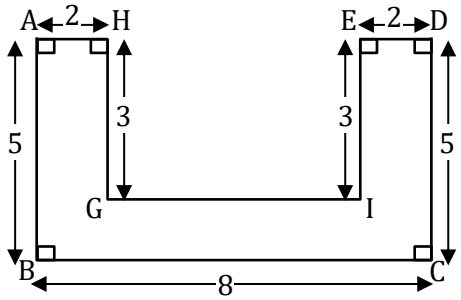
17. A playground 250 m long and 120 m broad is to be fenced with wire. How much wire is needed?

(1) 370 m (2) 280 m (3) 740 m (4) 580 m

18. If the perimeter of a square is 16 cm, then find the area of the square.

(1) 8 cm^2 (2) 16 cm^2 (3) 32 cm^2 (4) 64 cm^2

19. Find the perimeter of figure.



(1) 32 cm (2) 30 cm (3) 40 cm (4) None of these

20. If x m is the side of a regular hexagon then its perimeter is

(1) 6x m (2) (6 + x) m (3) (6 – x) m (4) (x ÷ 6) m

Test Solutions

Answer Key

Question	1	2	3	4	5	6	7	8	9	10
Answer	**4**	**3**	**2**	**1**	**2**	**1**	**3**	**4**	**3**	**2**
Question	11	12	13	14	15	16	17	18	19	20
Answer	**1**	**3**	**2**	**4**	**2**	**2**	**3**	**2**	**1**	**1**

1. Option (4)

Area of square = $(\text{side})^2 = 100\ \text{cm}^2$

$\Rightarrow$ side = 10 cm

Perimeter = 4 × side

= 4 × 10 = 40 cm

2. Option (3)

$1\text{m}^2 = 1\text{m} \times 1\text{m}$ $\quad \because\ 1\text{m} = 100\ \text{cm}$

= 100 cm × 100 cm

$= 10000\ \text{cm}^2$

3. Option (2)

Area of rectangle = L × B = 144

16 × B = 144

$\text{B} = \frac{144}{16} = 9\ \text{cm}$

4. Option (1)

Let third side = x

Perimeter = 42 = 16 + 12 + x

42 – 28 = x

$\Rightarrow$ 14 cm

5. Option (2)

Area of square = $(\text{side})^2 = 256$ sq. units

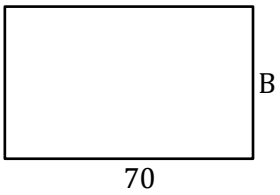
$\Rightarrow$ side = 16 units

6. Option (1)

Perimeter of equilateral triangle is = x

= 3 × 5 = 15 units

7. Option (3)



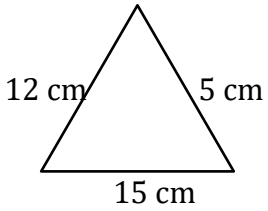
Perimeter = 2(L + B)

200 = 2(70 + B)

$\Rightarrow$ 100 = 70 + B

$\Rightarrow$ B = 30 cm

8. Option (4)



Perimeter = 12 + 15 + 5

= 32 cm

9. Option (3)

Let third side = x

$\Rightarrow$ perimeter = 36 = 15 + 12 + x

$\Rightarrow$ x = 36 – 27

x = 9 cm

10. Option (2)

Perimeter of regular heptagon

= 7 × side

So, 98 = 7 × side

side = 14 cm

11. Option (1)

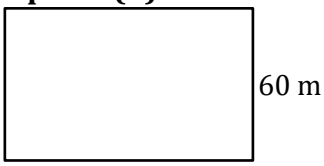
P = 2(L + B)

28 = 2(L + 4)

$\Rightarrow$ 14 = (L + 4)

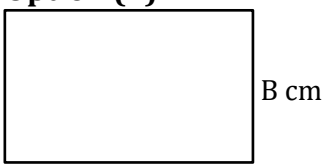
L = 10 cm

12. Option (3)



Perimeter = 2(L + B)
Perimeter = 2(40 + 60)
= 2 × 100 = 200 cm

13. Option (2)



Let Breadth of rectangle = B

$\Rightarrow$ length = $\frac{6}{5}$ B

Perimeter = 2(L + B) = 132

$= 2\left(\frac{6}{5}B + B\right) = 132$

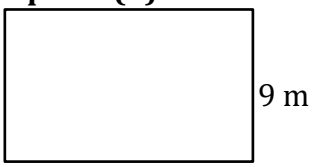
$\Rightarrow \frac{11}{5}$ B = 66

B = 30 cm

$\Rightarrow \frac{6}{5}$ B = length

$= \frac{6}{5} \times 30 = 36$ cm

14. Option (4)



Area of floor
= 15000 cm × 900 cm
= 13500000 cm^2
Area of 1 bricks = 22.5 cm × 7.5 cm
Let 'n' bricks are needed

$\Rightarrow n = \frac{\text{Area of floor}}{\text{Area of one brick}}$

$= \frac{13500000}{22.5 \times 7.5}$

= 80,000

15. Option (2)

Let third side = x

Perimeter of triangle = 42

$\Rightarrow 42 = 16 + 12 + x$

$42 - 28 = x$

$x = 14$ cm

16. Option (2)

Area of room = $13 \times 9 = 117$ m^2

Let length of carpet be x meter

Width of carpet = 75 cm = $\frac{75}{100}$ m = 0.75 m

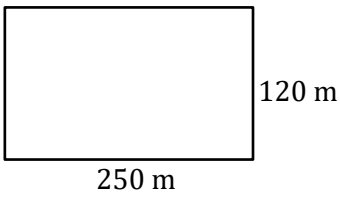
$\Rightarrow$ Area of floor = $x \times 0.75$

$\frac{117}{0.75}$ m^2= x = 156 m

cost of carpet = Rate × Length

= 50×156 = ₹7800

17. Option (3)



Perimeter = 2(L + B)

= 2(250 + 120)

= 2 × 370 m

= 740 m

Total 740 m wire needed

18. Option (2)

Perimeter of square = 4 × side

$16 = 4 \times$ side

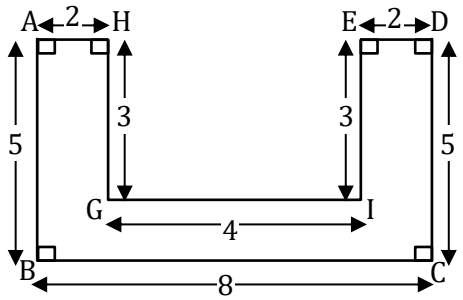
$\Rightarrow \frac{16}{4}$ = side = 4 cm

Area of square = side × side

= 4×4 cm^2

= 16 cm^2

19. Option (1)



Writing unknown side FC

By 8 – 2 – 2 = 4 cm

Perimeter = 5 + 8 + 5 + 2 + 3 + 4 + 3 + 2

= 32 cm

20. Option (1)

Perimeter of hexagon = 6 × side

But side = x m

$\Rightarrow$ perimeter of hexagon = 6 × x m

$\Rightarrow$ 6x m