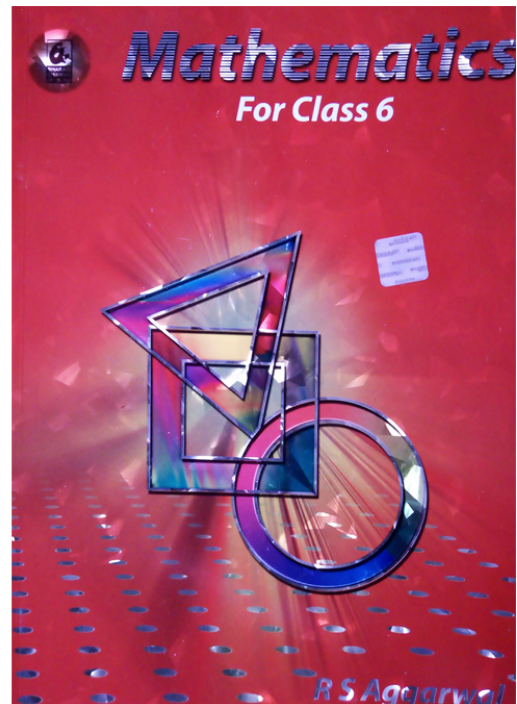


RS Aggarwal Solutions for Class 6 Maths

Chapter 21 –Concept of Perimeter and Area

Class 6 - Chapter 21 Concept of Perimeter and Area



For any clarifications or questions you can write to info@indcareer.com

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RS Aggarwal Solutions for Class 6 Maths Chapter 21 – Concept of Perimeter and Area

Class 6: Maths Chapter 21 solutions. Complete Class 6 Maths Chapter 21 Notes.

RS Aggarwal Solutions for Class 6 Maths Chapter 21 – Concept of Perimeter and Area

RS Aggarwal 6th Maths Chapter 21, Class 6 Maths Chapter 21 solutions

Ex 21A Solutions

Question 1.

Solution:

(i) Length (l) = 16.8 cm

Breadth (b) = 6.2 cm

Perimeter = $2(l + b)$

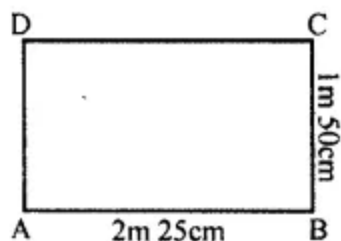
= $2(16.8 + 6.2)$ cm

= 2×23

= 46 cm

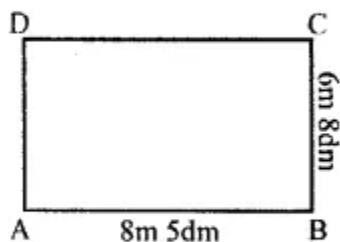
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- (ii) Length of rectangle (l) = 2 m, 25 cm
= 2.25 m
and breadth (b) = 1 m 50 cm = 1.50 m



$$\begin{aligned}\therefore \text{Perimeter} &= 2(l + b) \\ &= 2(2.25 + 1.50) \text{ m} \\ &= 2 \times 3.75 \text{ m} = 7.50 \text{ m} \\ &= 7 \text{ m } 50 \text{ cm}\end{aligned}$$

- (iii) Length of a rectangle (l) = 8 m 5 dm
= 8.5 m
and breadth (b) = 6 m 8 dm = 6.8 m



$$\begin{aligned}\therefore \text{Perimeter} &= 2(l + b) \\ &= 2(8.5 + 6.8) \text{ m} \\ &= 2 \times 15.3 \text{ m} = 30.6 \text{ m}\end{aligned}$$

= 30m 6 dm

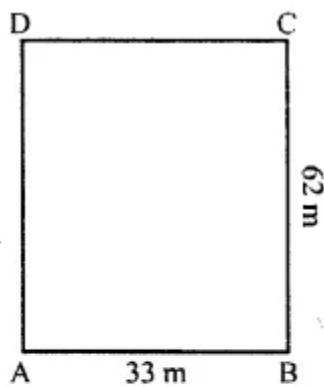
Question 2.

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Solution:

Length of rectangular field (l) = 62 m

and breadth (b) = 33 m



$$\begin{aligned}\therefore \text{Perimeter} &= 2(l + b) \\ &= 2(62 + 33) = 2 \times 95 \text{ m} = 190 \text{ m} \\ \text{Rate of fencing} &= \text{Rs. } 16 \text{ per m} \\ \text{Total cost of fencing the field} \\ &= \text{Rs. } 16 \times 190 = \text{Rs. } 3040\end{aligned}$$

Question 3.**Solution:**

Perimeter of field = 128 m

Length + Breadth = $128 \div 2 = 64$ m

Ratio in length and breadth = 5:3

Let length (l) = $5x$

Then breadth = $3x$

$$5x + 3x = 64$$

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$$\Rightarrow 5x = 64$$

$$\Rightarrow x = 648 = 8$$

$$\text{Length of the field} = 5x = 5 \times 8 = 40\text{m}$$

$$\text{and breadth} = 3x = 3 \times 8 = 24\text{m}$$

Question 4.**Solution:**

Cost of fencing a rectangular field

= Rs. 18 per m

Total cost = Rs. 1980

$$\therefore \text{Perimeter of the field} = \frac{\text{Total cost}}{\text{Rate}}$$

$$= \frac{1980}{18} = 110 \text{ m}$$

$$\text{and length} + \text{breadth} = \frac{110}{2} = 55 \text{ m}$$

$$\text{Width of the field} = 23 \text{ m}$$

$$\text{Length} = 55 - 23 = 32 \text{ m}$$

Question 5.**Solution:**

Total cost of fencing a rectangular field

= Rs 3300

Rate of fencing = Rs 25 per m

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$$\therefore \text{Perimeter} = \frac{\text{Total cost}}{\text{Rate}} = \frac{3300}{25}$$
$$= 132 \text{ m}$$

$$\text{and length} + \text{breadth} = \frac{\text{Perimeter}}{2}$$
$$= \frac{132}{2} = 66 \text{ m}$$

Now ratio in length and breadth = 7 : 4

Let length = $7x$

Then breadth = $4x$

$$\therefore 7x + 4x = 66 \Rightarrow 11x = 66$$

$$\therefore x = \frac{66}{11} = 6$$

$$\therefore \text{Length of the field} = 7x = 7 \times 6 = 42 \text{ m}$$
$$\text{and breadth} = 4x = 4 \times 6 = 24 \text{ m}$$

Question 6.

Solution:

(i) Side of square = 3.8 cm

Perimeter = 4 x side

$$= 4 \times 3.8 \text{ cm}$$

$$= 15.2 \text{ cm}$$

(ii) Side of a square = 4.6 m

Perimeter = 4 x side

$$= 4 \times 4.6 \text{ m}$$

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$$= 18.4 \text{ m}$$

(iii) Side of a square = 2 m 5 dm

$$= 2.5 \text{ m}$$

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

$$= 4 \times 2.5 \text{ m}$$

$$= 10 \text{ m}$$

Question 7.

Solution:

Total cost of fencing a square field = Rs. 4480

Rate of fencing = Rs. 35 per m

$$\therefore \text{Perimeter of square field} = \frac{\text{Total cost}}{\text{Rate}}$$

$$= \frac{4480}{35} = 128 \text{ m}$$

$$\therefore \text{Side of the square} = \frac{\text{Perimeter}}{4}$$

$$= \frac{128}{4} = 32 \text{ m}$$

Question 8.

Solution:

Side of a square field (a) = 21 m

$$\text{Perimeter} = 4a = 4 \times 21 = 84 \text{ m}$$

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Perimeter of rectangular field = 84 m

Ratio in length and breadth = 4 : 3

Let length (l) = $4x$

and breadth (b) = $3x$

Perimeter = $2(l + b)$

$$\Rightarrow 84 = 2(4x + 3x) = 2 \times 7x = 14x$$

$$\Rightarrow x = \frac{84}{14} = 6$$

$$\therefore \text{Length} = 4x = 4 \times 6 \\ = 24 \text{ metre}$$

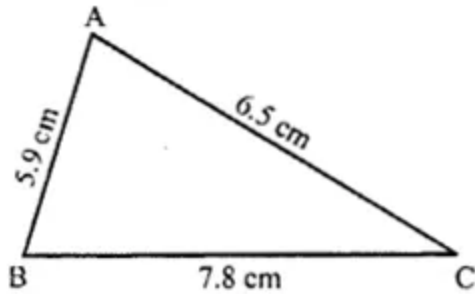
$$\text{and breadth} = 3x = 3 \times 6 \\ = 18 \text{ metre} \quad \text{Ans.}$$

Question 9.

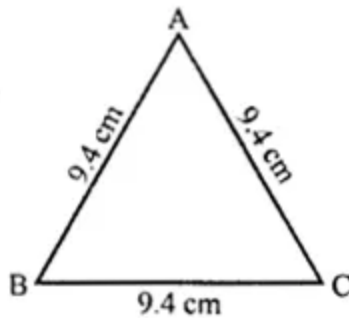
Solution:

(i) Sides of a triangle are 7.8 cm, 6.5 cm and 5.9 cm

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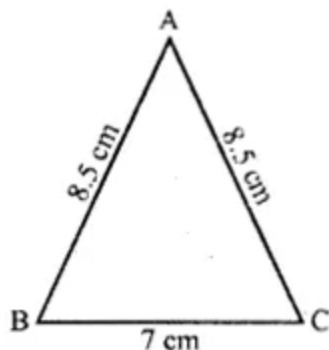


- ∴ Perimeter = Sum of sides
= $(7.8 + 6.5 + 5.9)$ cm = 20.2 cm
- (ii) Each side of an equilateral triangles
= 9.4 cm



$$\therefore \text{Perimeter} = 3 \times \text{side} \\ = 3 \times 9.4 = 28.2 \text{ cm}$$

- (iii) Each of equal sides = 8.5 cm
and third side = 7 cm



$$\therefore \text{Perimeter} = \text{Sum of sides} \\ = (8.5 + 8.5 + 7) \text{ cm} = 24 \text{ cm}$$

Question 10.

Solution:

- (i) Each side of a regular pentagon

$$= 8 \text{ cm}$$

$$\text{Perimeter} = 5 \times \text{Side}$$

$$= 5 \times 8$$

$$= 40 \text{ cm}$$

- (ii) Each side of an octagon = 4.5 cm

$$\text{Perimeter} = 8 \times \text{Side}$$

$$= 8 \times 4.5$$

$$= 36 \text{ cm}$$

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(iii) Each side of a regular decagon = 3.6 cm

Perimeter = 10 x Side

= 10 x 3.6

= 36 cm

Question 11.

Solution:

We know that perimeter of a closed figure or a polygon = Sum of its sides

(i) In the figure, sides of a quadrilateral are 45 cm, 35 cm, 27 cm, 35 cm

Its perimeter = Sum of its sides

= (45 + 35 + 27 + 35) cm

= 142 cm

(ii) Sides of a quadrilateral (rhombus) are 18 cm, 18 cm, 18 cm, 18 cm

i.e., each side = 18 cm Perimeter

= 4 x Side

= 4 x 18

= 72 cm

(iii) Sides of the polygon given are 16 cm, 4 cm, 12 cm, 12 cm, 4 cm, 16 cm and 8 cm

Its perimeter = Sum of its sides

= (16 + 4 + 12 + 12 + 4 + 16 + 8) cm

= 72 cm

Ex 21B Solutions

Question 1.

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Solution:

(i) Radius of the circle (r) = 28 cm

$$\text{Circumference} = 2 \pi r$$

$$= 2 \times 227 \times 28 \text{ cm}$$

$$= 176 \text{ cm Ans.}$$

(ii) Radius of the circle (r) = 10.5 cm

$$\therefore \text{Circumference} = 2 \pi r$$

$$= 2 \times \frac{22}{7} \times 10.5 \text{ cm}$$

$$= 44 \times 1.5 = 66 \text{ cm Ans.}$$

(iii) Radius of a circle (r) = 3.5 m

$$\therefore \text{Circumference} = 2\pi r$$

$$= 2 \times \frac{22}{7} \times 3.5 \text{ m}$$

$$= \frac{2 \times 22 \times 35}{7 \times 10} = 22 \text{ m Ans.}$$

Question 2.**Solution:**

(i) Diameter of the circle (d) = 14 cm

$$\text{Circumference} = \pi d$$

$$= 227 \times 14$$

$$= 44 \text{ cm}$$

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(ii) Diameter of the circle (d) = 35 cm

$\therefore$ Circumference = πd

$$= \frac{22}{7} \times 35 = 110 \text{ cm} \quad \text{Ans.}$$

(iii) Diameter of a circle (d) = 10.5 m

$$\therefore \text{Circumference} = \pi d = \frac{22}{7} \times 10.5 \text{ m}$$

$$= 33 \text{ m} \quad \text{Ans.}$$

Question 3.

Solution:

Circumference of the circle = 176 cm

Let r be the radius, then

$$\begin{aligned} r &= \frac{\text{Circumference}}{2\pi} \\ &= \frac{176 \times 7}{2 \times 22} = 4 \times 7 = 28 \text{ cm} \end{aligned}$$

$$\therefore \text{Radius} = 28 \text{ cm} \quad \text{Ans.}$$

Question 4.

Solution:

Circumference of a wheel = 264 cm

Let d be its diameter, then

$$\pi d = 264$$

$$\Rightarrow 22d = 264$$

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$$= 264$$

$$\Rightarrow d = \frac{264 \times 7}{22} = 84 \text{ cm} \quad \text{Ans.}$$

Question 5.**Solution:**

Diameter of the wheel (d) = 77 cm

Circumference = πd

$$= \frac{22}{7} \times 77 = 242 \text{ cm}$$

$$\therefore \text{Distance covered in one revolution} \\ = 242 \text{ cm}$$

$$\therefore \text{Distance covered in 500 revolutions} \\ = 242 \times 500 \text{ cm}$$

$$= \frac{242 \times 500}{100} \text{ m} = 2410 \text{ m.}$$

Question 6.**Solution:**

Diameter of the wheel = 70 cm

circumference = πd

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$$= \frac{22}{7} \times 70 = 220 \text{ cm}$$

Total distance = 1.65 km

$$= 1650 \text{ m (1 km = 1000 m)}$$

$$\therefore \text{No. of revolutions} = \frac{\text{Total distance}}{\text{Circumference}}$$

$$= \frac{1650 \text{ m}}{220 \text{ cm}} = \frac{1650 \times 100}{220}$$

$$= 750 \quad \text{Ans.}$$

Ex 21C Solutions

Question 1.

Solution:

1. In the given figure, there are 12 complete squares, so its area is 12 cm^2 .
2. In the given figure, there are 18 complete squares, so its area is 18 cm^2 .
3. In the given figure, there are 14.5 complete squares, so its area is 14.5 cm^2 .
4. In the given figure, there are 6 complete squares and four half parts of a square, the area of the figure is 8 cm^2 .
5. The given figure contains 9 complete squares and 6 half parts of a square. So the area of the figure is
 $(9+6/2) = 9 + 3 = 12 \text{ cm}^2$.
6. The given figure contains 16 complete squares. So, its area is 16 cm^2 .
7. The given figure contains 4 complete squares, 8 more than half parts and 4 less than half parts of a square. Neglecting the less than half parts and considering the more than half parts as complete squares, the approximate area of the figure is 12 cm^2 .

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8. The given figure contains 7 complete squares and 5 more than half parts and some less than half parts of a square. Neglecting the less than half parts and considering more than half parts as complete square, the area of the figure is 12 cm^2 approximately.

9. The given figure contains 14 complete squares and four half parts of a square. So, the area of the figure is

$$(14+4 \times \frac{1}{2}) \text{ cm}^2 = (14 + 2) \text{ cm}^2 = 16 \text{ cm}^2.$$

Ex 21D Solutions

Question 1.

Solution:

(i) Length (l) = 46 cm

Breadth (b) = 25 cm

Area of rectangle = l x b

$$= 46 \times 25 \text{ sq. cm}$$

$$= 1150 \text{ sq.cm.}$$

(ii) Length (l) = 9 m

Breadth (b) = 6 m

Area = l x b = 9 x 6

$$= 54 \text{ sq. metre Ans.}$$

(iii) Length (l) = 14.5 m

Breadth (b) = 6.8 m

Area = l x b

$$= 14.5 \times 6.8 \text{ sq. m}$$

$$= 98.6 \text{ sq. m Ans.}$$

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(iv) Length (l) = 2m 5cm

$$= 2 \times 100 \text{ cm} + 5 \text{ cm}$$

$$= 200 \text{ cm} + 5 \text{ cm}$$

$$= 205 \text{ cm}$$

Breadth = 60 cm

$$\text{Area} = l \times b$$

$$= 205 \text{ cm} \times 60 \text{ cm}$$

$$= 12300 \text{ cm}^2$$

(v) Length (l) = 3.5 km

Breadth (b) = 2 km

$$\text{Area} = l \times b$$

$$= 3.5 \times 2$$

$$= 7 \text{ sq. km. Ans.}$$

Question 2.

Solution:

Side of a square plot = 14 m

$$\text{Area} = (\text{Side})^2$$

$$= (14)^2$$

$$= 196 \text{ m}^2$$

Question 3.

Solution:

Length of top of table (l) = 2 m, 25 cm = 2.25 m

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Breadth (l) = 1 m 20 cm = 1.20 m

Area of the top of the table = l x b

= (2.25 x 1.20) sq. m

= 2.7 sq. m. Ans.

Question 4.

Solution:

Length of carpet (l) = 30 m 75 cm

= 30.75 m

Breadth (b) = 80 cm = 0.80 m

Area of the carpet = l x b

= (30.75 x 0.80) sq. m

= 24.6 sq. m

Cost of one square metre = Rs. 20

Total cost = 24.6 x 150

= Rs. 3690. Ans

Question 5.

Solution:

Length of the sheet of paper 3 m 24 cm

= 300 cm + 24 cm

= 324 cm

Breadth of the sheet of the paper 1 m 72 cm

= 100 cm + 72 cm

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$$= 172 \text{ cm}$$

$$\text{Area of the sheet of paper} = (324 \times 172) \text{ cm}^2$$

$$\text{Also, area of the piece of paper required for an envelope} = (18 \times 12) \text{ cm}^2.$$

Number of envelopes that can be made

$$= 324 \div 18 \times 172 \div 12$$

$$= 258$$

Question 6.

Solution:

$$\text{Length of room (l)} = 12.5 \text{ m}$$

$$\text{Breadth (b)} = 8 \text{ m}$$

$$\text{Area} = l \times b$$

$$= (12.5 \times 8) \text{ sq. m}$$

$$= 100 \text{ sq. m}$$

$$\text{Side of square carpet (a)} = 8 \text{ m}$$

$$\text{Area of carpet} = a^2 = (8 \times 8) \text{ sq. m.}$$

$$= 64 \text{ square metre}$$

$$\text{Area left without carpet} = 100 \text{ sq. m} - 64 \text{ sq. m}$$

$$= 36 \text{ sq. m Ans.}$$

Question 7.

Solution:

$$\text{Length of the lane} = 150 \text{ m}$$

$$\text{Breadth of the lane} = 9 \text{ m}$$

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$$\text{Area of the lane} = (150 \times 9) \text{ m}^2$$

$$= 1350 \text{ m}^2$$

$$\text{Area of the brick} = 22.5 \text{ cm} \times 7.5 \text{ cm}$$

$$= 168.75 \text{ cm}^2$$

$$= \frac{168.75}{10000} \text{ m}^2 = 0.016875 \text{ m}^2$$

$\therefore$ Number of bricks required

$$= \frac{\text{Area of lane}}{\text{Area of brick}} = \frac{1350}{0.016875}$$

$$= 1350 \times \frac{1000000}{16875} = 80000$$

Question 8.

Solution:

$$\text{Length of room (l)} = 13 \text{ m}$$

$$\text{Breadth (b)} = 9 \text{ m}$$

$$\text{Area of floor or carpet} = l \times b$$

$$= 13 \times 9$$

$$= 117 \text{ sq. m}$$

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$$\text{Width of carpet} = 75 \text{ cm} = \frac{75}{100} = \frac{3}{4} \text{ m}$$

$$\therefore \text{Length of carpet} = \frac{\text{Area}}{\text{breadth}}$$

$$= \frac{117}{\frac{3}{4}} = \frac{117 \times 4}{3} \text{ m}$$

$$= 39 \times 4 = 156 \text{ m}$$

$$\text{Cost of 1 metre} = \text{Rs. } 65$$

$$\therefore \text{Total cost of carpet} = \text{Rs. } 65 \times 156 \\ = \text{Rs. } 10140 \quad \text{Ans.}$$

Question 9.**Solution:**

Let the length of the rectangular park = $5x$ metres

and the breadth of the rectangular park = $3x$ metres

$$\text{Perimeter of the park} = 128 \text{ m}$$

$$\Rightarrow 2 \times (\text{length} + \text{breadth}) = 128$$

$$\Rightarrow 2 \times (5x + 3x) = 128$$

$$\Rightarrow 2 \times 8x = 128 \Rightarrow 16x = 128$$

$$\Rightarrow x = \frac{128}{16} = 8$$

$$\therefore \text{Length of the park} = 5 \times 8 = 40 \text{ m}$$

$$\text{Breadth of the park} = 3 \times 8 = 24 \text{ m}$$

$$\text{Area of the park} = (\text{length} \times \text{breadth})$$

$$= (40 \times 24) \text{ m}^2 = 960 \text{ m}^2.$$

Question 10.

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Solution:

Side of the square plot = 64 m

Perimeter of the square plot = 4 x Side

$$= 4 \times 64$$

$$= 256 \text{ m}$$

Perimeter of the rectangular plot = Perimeter of the square plot = 256 m

Length of the rectangular plot = 70 m

Perimeter = 2 x (Length + Breadth)

$$256 = 2 (70 + b)$$

$$256 = 140 + 2b$$

$$\Rightarrow 2b = 256 - 140$$

$$\Rightarrow 2b = 116$$

$$b = 116 \div 2 = 58 \text{ cm}$$

Area of the rectangular plot = (length x breadth)]

$$= (70 \times 58) \text{ m}^2$$

$$= 4060 \text{ m}^2$$

Area of the square plot = Side x Side

$$= (64 \times 64) \text{ m}^2$$

$$= 4096 \text{ m}^2.$$

Square plot has the greater area than that of the rectangular plot by

$$(4096 - 4060)$$

$$= 36 \text{ m}^2.$$

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Question 11.**Solution:**

Total cost of cultivating the rectangular field = Rs. 71400

Rate of cultivating = Rs. 35 per sq. m

$$\therefore \text{Area of field} = \frac{71400}{35} = 2040 \text{ m}^2$$

Now width of the field (b) = 40 m

$$\therefore \text{Length} = \frac{\text{Area}}{\text{Breadth}} = \frac{2040}{40} = 51 \text{ m}$$

Now circumference of the field = $2(l + b)$

$$= 2(51 + 40) = 2 \times 91 \text{ m} = 182 \text{ m}$$

Rate of fencing = Rs. 50 per m

$$\therefore \text{Total cost} = \text{Rs. } 50 \times 182 = \text{Rs. } 9100$$

Question 12.**Solution:**

Area of rectangle = 540 sq. cm

Length (l) = 36 cm

$$\therefore \text{Breadth } (b) = \frac{\text{Area}}{\text{Length}} = \frac{540}{36} = 15 \text{ cm}$$

$$\therefore \text{Perimeter of rectangle} = 2(l + b)$$

$$= 2(36 + 15) \text{ cm}$$

$$= 2 \times 51 = 102 \text{ cm} \quad \text{Ans.}$$

Question 13.

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Solution:

Measure of a marble tile = 12cm x 10cm

Area of wall = 4 m x 3 m

= 12 m²

Area of one marble tile

= 12 x 10

= 120 cm²

Question 14.**Solution:**

Area of a rectangle = 600 cm²

Breadth = 25 cm

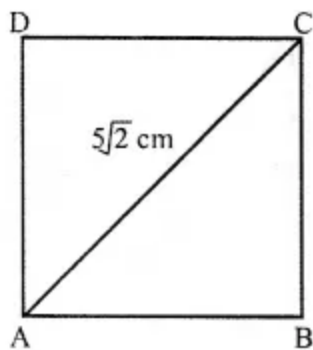
$$\therefore \text{Length} = \frac{\text{Area}}{\text{Breadth}} = \frac{600}{25} = 24 \text{ cm}$$

$$\begin{aligned}\therefore \text{Perimeter} &= 2(l + b) \\ &= 2(24 + 25) = 2 \times 49 = 98 \text{ cm}\end{aligned}$$

Question 15.**Solution:**

diagonal of square = $5\sqrt{2}$

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$$\begin{aligned}\therefore \text{Area} &= (\text{Side})^2 \\ &= (5)^2 = 25 \text{ cm}^2 \\ \text{OR}\end{aligned}$$

$$\begin{aligned}\text{Area} &= \frac{1}{2} \times (\text{diagonal})^2 \\ &= \frac{1}{2} \times (5\sqrt{2})^2 \text{ cm}^2 \\ &= \frac{1}{2} \times 25 \times 2 = 25 \text{ cm}^2\end{aligned}$$

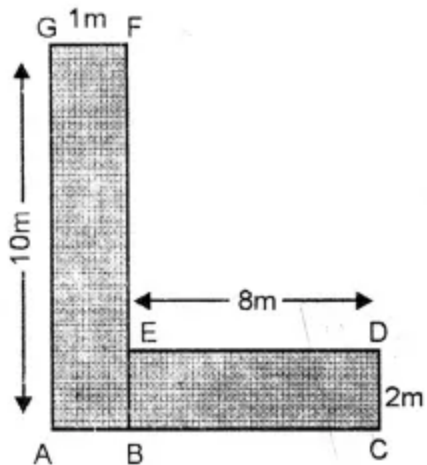
$$\begin{aligned}\therefore \text{Side} &= \frac{\text{diagonal}}{\sqrt{2}} \\ &= \frac{5\sqrt{2}}{\sqrt{2}} = 5 \text{ cm}\end{aligned}$$

Question 16.

Solution:

(i) We name the given region as shown in the figure

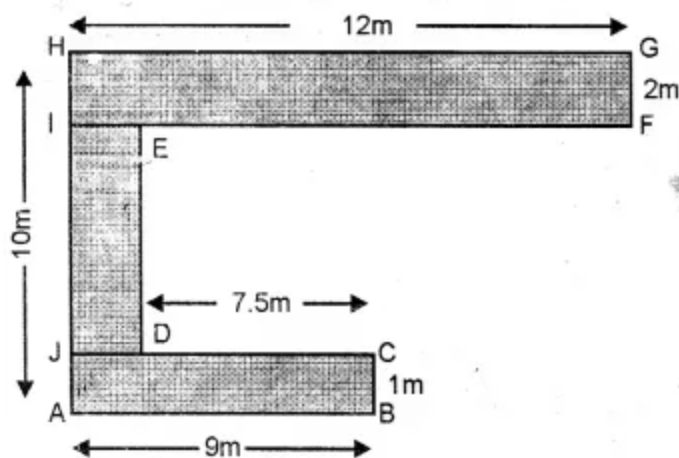
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$$\begin{aligned}\therefore \text{Area of the given shaded region} &= (\text{Area of the rectangle ABFG}) \\ &\quad + (\text{Area of rectangle BCDE}) \\ &= (AG \times GF) + (CD \times DE) \\ &= (10m \times 1m) + (2m \times 8m) \\ &= 10m^2 + 16m^2 = 26m^2.\end{aligned}$$

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(ii) We name the given region as shown in the figure.

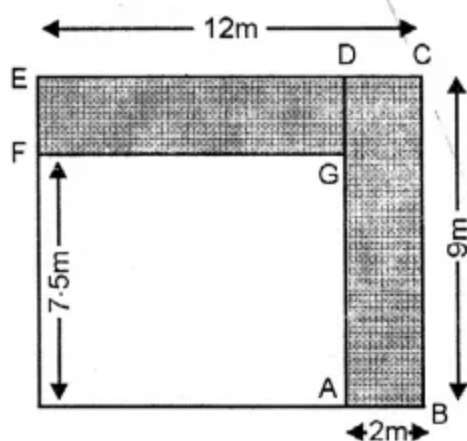


Then, required area of the shaded region
 = (Area of rectangle ABCJ)
 + (Area of the rectangle DEIJ)
 + (Area of the rectangle FGHI)
 = $(AB \times BC) + (DE \times EI) + (GH \times FG)$
 = $(9\text{ m} \times 1\text{ m}) + (7\text{ m} \times 1.5\text{ m})$
 + $(12\text{ m} \times 2\text{ m})$

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$$\begin{aligned}
 [\because DE &= AH - HI - AJ = 10m - 2m - 1m \\
 &= 10m - 3m = 7m, \\
 EI &= 9m - 7.5m = 1.5m] \\
 &= 9m^2 + 10.5m^2 + 24m^2 = 43.5m^2
 \end{aligned}$$

(iii) We name the given region as shown in the figure.



Then, required area of the shaded region

$$= (\text{Area of rectangle } ABCD)$$

$$+ (\text{Area of rectangle } DEFG)$$

$$= (AB \times BC) + (DE \times EF)$$

$$= (2m \times 9m) + (10m \times 1.5m)$$

$$[\because DE = 12m - 2m = 10m \text{ and}$$

$$EF = 9m - 7.5m = 1.5m]$$

$$= 18m^2 + 15m^2$$

$$= 33m^2.$$

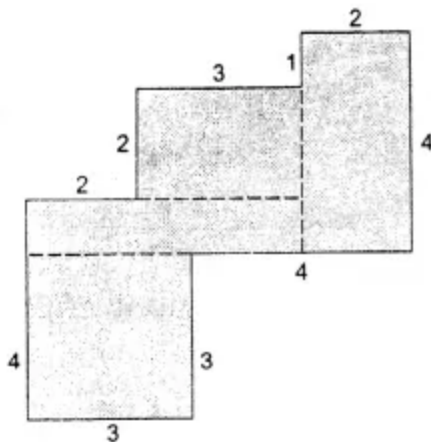
Question 17.

Solution:

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Measures are in cm

(i) In the figure, there are three rectangles and one square



Area of rectangle (1) = $4 \times 2 = 8 \text{ cm}^2$

Area of rectangle (2) = $3 \times 2 = 6 \text{ cm}^2$

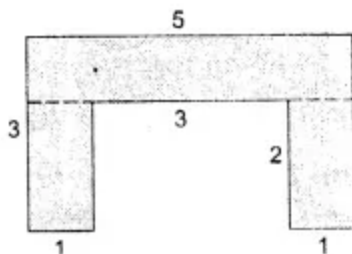
Area of rectangle (3) = $5 \times 1 = 5 \text{ cm}^2$

Area of square (4) = $3 \times 3 = 9 \text{ cm}^2$

Total area of the figure = $(8 + 6 + 5 +$

$9) \text{ cm}^2 = 28 \text{ cm}^2$

(ii) In the figure, there are 3 rectangles



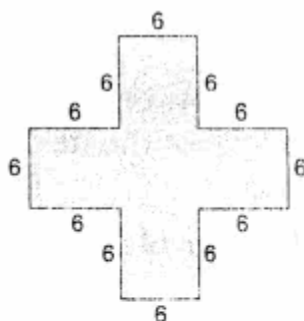
∴ Area of rectangle (1) = $2 \times 1 = 2 \text{ cm}^2$

Area of rectangle (2) = $5 \times 1 = 5 \text{ cm}^2$

and area of rectangle (3) = $2 \times 1 = 2 \text{ cm}^2$

Total area of the figure = $2 + 5 + 2$
 $= 9 \text{ cm}^2$

(iii) In the figure, there are 5 squares with each side = 6 cm



∴ Total area = $5 (\text{side})^2$

= $5(6 \times 6) \text{ cm}^2$

= 180 cm^2

= $5(6 \times 6) \text{ cm}^2$

= 180 cm^2

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Ex 21E Solutions**Objective questions**

Mark against the correct answer in each of the following :

Question 1.**Solution:**

Ratio in the sides of a rectangle = 7 : 5

and perimeter = 96 cm

Question 2.**Solution:**

Area of a rectangle = 650 cm²

and breadth (b) = 13 cm

Question 3.**Solution:**

Length of a rectangular field (l) = 34 m

and breadth (b) = 18 m

Circumference = 2 (l + b)

= 2 (34 + 18)m

= 2 x 52

= 104 m

Rate of fencing = Rs. 22.50 per m

Total cost = Rs. 22.50 x 104

= Rs. 2340 (b)

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Question 4.**Solution:**

Total cost of fencing = Rs. 2400

Rate = Rs. 30 per m

Perimeter of the rectangular field

Question 5.**Solution:**

Area of rectangular carpet = 120 cm^2

Perimeter = 46 m

Now $2(l + b)$

= 46 m

Question 6.**Solution:**

Let width of a rectangle = x

Then length = $3x$

and diagonal = $6\sqrt{10} \text{ cm}$

Question 7.**Solution:**

Ratio in length and perimeter of a rectangle = $1 : 3$

Let length = x ,

then perimeter = $3x$

Question 8.

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Solution:

Length of diagonal of a square = 20 cm

Question 9.**Solution:**

Total cost of fencing around a square field = Rs. 2000

and rate = Rs. 25 per metre

Question 10.**Solution:**

Circumference = πd

= 227×7

= 22 cm (b)

Question 11.**Solution:**

(a) Diameter = $\frac{\text{circumference}}{\pi}$

= 88×722

= 28 cm

Question 12.**Solution:**

Circumference = πd

= 227×70

= 220 cm

Question 13.

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Solution:

Length of the lane = 150 m

Breadth of the lane = 9 m

Area of the lane = $(150 \times 9) \text{ m}^2$

= 1350 m^2

Area of the brick = $22.5 \text{ cm} \times 7.5 \text{ cm}$

= 168.75 cm^2

Question 14.**Solution:**

Length of a rectangular room (l) = 5 m 40 cm = 5.4 m

and breadth (b) = 4 m 50 cm

= 4.5 m

Area = $l \times b = 5.4 \times 4.5 \text{ m}^2$

= 24.3 m^2 (b)

Question 15.**Solution:**

Length of a sheet (l) = 72 cm

and breadth (b) = 48 cm

Area = $l \times b = 72 \times 48 \text{ cm}^2$

Area of paper for one envelope = $18 \times 12 \text{ cm}^2$

No. of envelopes = $72 \times 48 \div 18 \times 12 = 16$ (d)

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- Chapter 10–Ratio, Proportion and Unitary Method
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- Chapter 13–Angles and Their Measurement
- Chapter 14–Constructions (Using Ruler and a Pairs of Compasses)
- Chapter 15–Polygons
- Chapter 16–Triangles
- Chapter 17–Quadrilaterals
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He was born on January 2, 1946 in a village of Delhi. He graduated from Kirori Mal College, University of Delhi. After completing his M.Sc. in Mathematics in 1969, he joined N.A.S. College, Meerut, as a lecturer. In 1976, he was awarded a fellowship for 3 years and joined the University of Delhi for his Ph.D. Thereafter, he was promoted as a reader in N.A.S. College, Meerut. In 1999, he joined M.M.H. College, Ghaziabad, as a reader and took voluntary retirement in 2003. He has authored more than 75 titles ranging from Nursery to M. Sc. He has also written books for competitive examinations right from the clerical grade to the I.A.S. level.

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