

Access NCERT Solutions for Class 6 Chapter 10: **Mensuration Exercise 10.3**

1. Find the area of the rectangles whose sides are:

(a) 3 cm and 4 cm

(b) 12 m and 21 m

(c) 2 km and 3 km

(d) 2 m and 70 cm

Solutions:

We know that

Area of rectangle = Length \times Breadth

(a) $l = 3$ cm and $b = 4$ cm

Area = $l \times b = 3 \times 4$

= 12 cm^2

(b) $l = 12$ m and $b = 21$ m

Area = $l \times b = 12 \times 21$

= 252 m^2

(c) $l = 2$ km and $b = 3$ km

Area = $l \times b = 2 \times 3$

= 6 km^2

(d) $l = 2$ m and $b = 70 \text{ cm} = 0.70 \text{ m}$

Area = $l \times b = 2 \times 0.70$

= 1.40 m^2

2. Find the areas of the squares whose sides are:

(a) 10 cm

(b) 14 cm

(c) 5 m

Solutions:

(a) Area of square = side^2

= 10^2

= 100 cm^2

(b) Area of square = side^2

= 14^2

= 196 cm^2

(c) Area of square = side^2

$$= 5^2$$

$$= 25 \text{ cm}^2$$

3. The length and breadth of three rectangles are as given below:

(a) 9 m and 6 m

(b) 17 m and 3 m

(c) 4 m and 14 m

Which one has the largest area and which one has the smallest?

Solutions:

(a) Area of rectangle = $l \times b$

$$= 9 \times 6$$

$$= 54 \text{ m}^2$$

(b) Area of rectangle = $l \times b$

$$= 17 \times 3$$

$$= 51 \text{ m}^2$$

(c) Area of rectangle = $l \times b$

$$= 4 \times 14$$

$$= 56 \text{ m}^2$$

Area of rectangle 56 m^2 i.e (c) is the largest area and area of rectangle 51 m^2 i.e (b) is the smallest area

4. The area of a rectangular garden 50 m long is 300 sq m. Find the width of the garden.

Solutions:

Area of rectangle = length \times width

$$300 = 50 \times \text{width}$$

$$\text{width} = 300 / 50$$

$$\text{width} = 6 \text{ m}$$

\therefore The width of the garden is 6 m

5. What is the cost of tiling a rectangular plot of land 500 m long and 200 m wide at the rate of ₹ 8 per hundred sq m.?

Solutions:

Area of land = length \times breadth

$$= 500 \times 200$$

$$= 1,00,000 \text{ m}^2$$

\therefore Cost of tiling 1,00,000 sq m of land = $(8 \times 1,00,000) / 100$

= ₹ 8000

6. A table top measures 2 m by 1 m 50 cm. What is its area in square metres?

Solutions:

Given

$l = 2\text{m}$

$b = 1\text{m } 50\text{ cm} = 1.50\text{ m}$

$\text{Area} = l \times b = 2 \times 1.50$

$= 3\text{ m}^2$

7. A room is 4 m long and 3 m 50 cm wide. How many square metres of carpet is needed to cover the floor of the room?

Solutions:

Given

$l = 4\text{m}$

$b = 3\text{ m } 50\text{ cm} = 3.50\text{ m}$

$\text{Area} = l \times b = 4 \times 3.50$

$= 14\text{ m}^2$

8. A floor is 5 m long and 4 m wide. A square carpet of sides 3 m is laid on the floor. Find the area of the floor that is not carpeted.

Solutions:

$\text{Area of floor} = l \times b = 5 \times 4$

$= 20\text{ m}^2$

$\text{Area of square carpet} = 3 \times 3$

$= 9\text{ m}^2$

$\text{Area of floor that is not carpeted} = 20 - 9$

$= 11\text{ m}^2$

\therefore Area of the floor that is not carpeted is 11 m^2

9. Five square flower beds each of sides 1 m are dug on a piece of land 5 m long and 4 m wide. What is the area of the remaining part of the land?

Solutions:

Area of flower square bed = 1×1

$$= 1 \text{ m}^2$$

Area of 5 square bed = 1×5

$$= 5 \text{ m}^2$$

Area of land = 5×4

$$= 20 \text{ m}^2$$

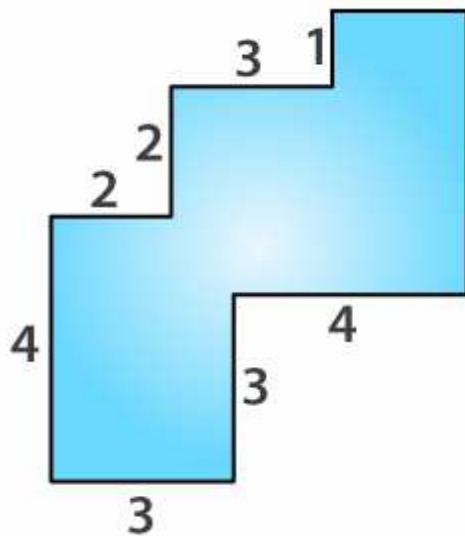
Remaining part of the land = Area of land – Area of 5 square bed

$$= 20 - 5$$

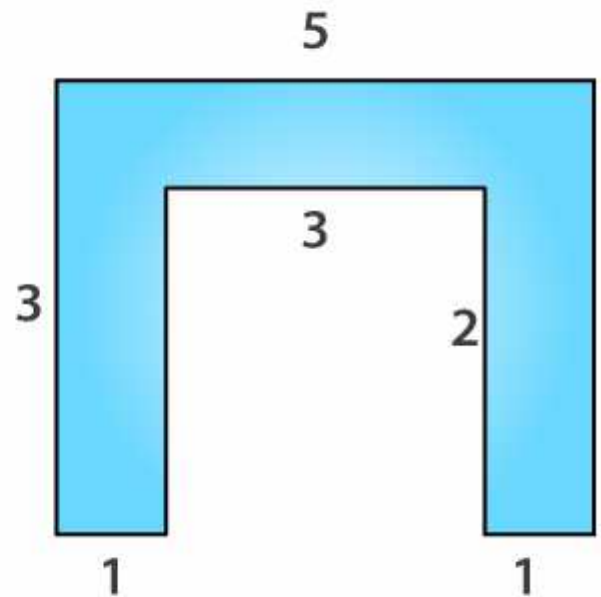
$$= 15 \text{ m}^2$$

\therefore Remaining part of the land is 15 m^2

10. By splitting the following figures into rectangles, find their areas (The measures are given in centimetres).



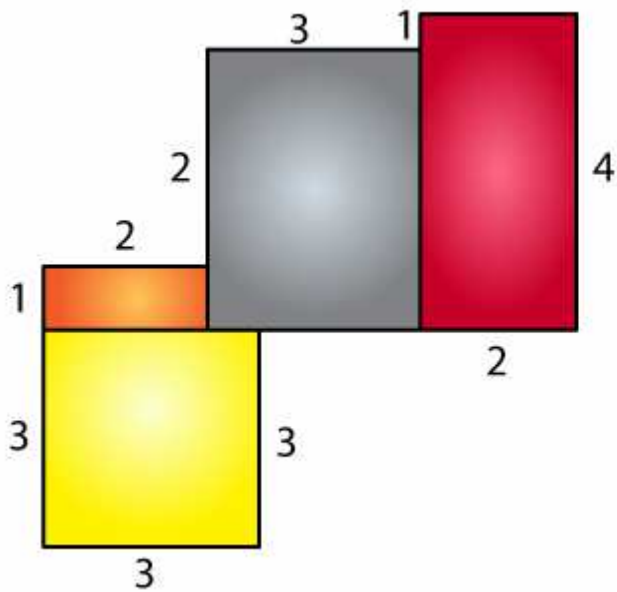
(a)



(b)

Solutions:

(a)



Area of yellow region = 3×3

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

Area of orange region = 1×2

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

Area of grey region = 3×3

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

Area of brown region = 2×4

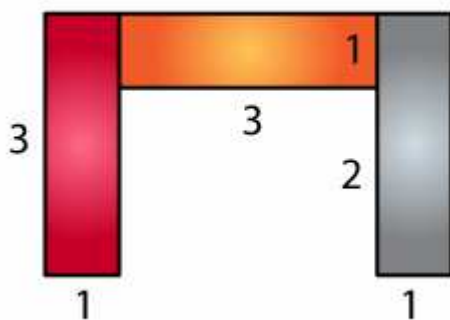
$$= 8 \text{ cm}^2$$

Total area = $9 + 2 + 9 + 8$

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

\therefore Total area is 28 cm^2

(b)



Area of brown region = 3×1

$$= 3 \text{ cm}^2$$

Area of orange region = 3×1

$$= 3 \text{ cm}^2$$

Area of grey region = 3×1

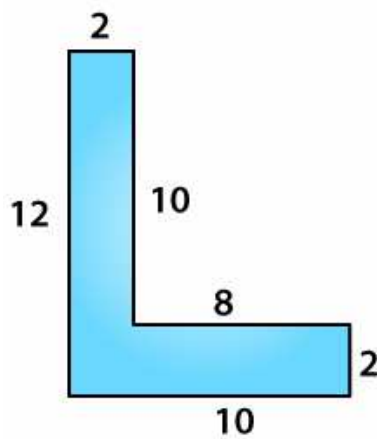
$$= 3 \text{ cm}^2$$

Total area = $3 + 3 + 3$

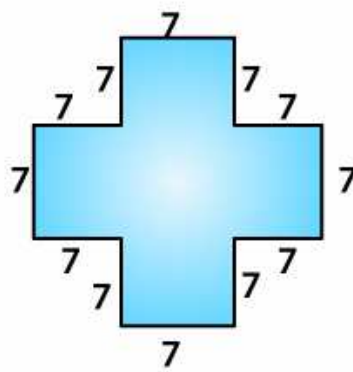
$$= 9 \text{ cm}^2$$

\therefore Total area is 9 cm^2

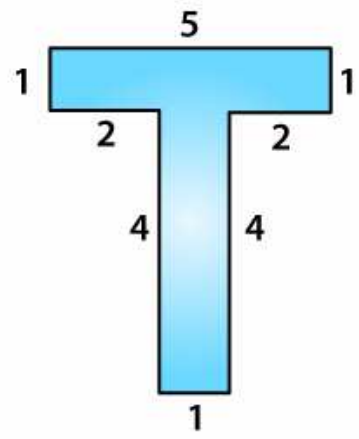
11. Split the following shapes into rectangles and find their areas. (The measures are given in centimetres)



(a)



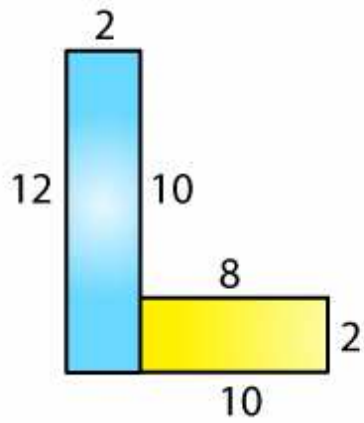
(b)



(c)

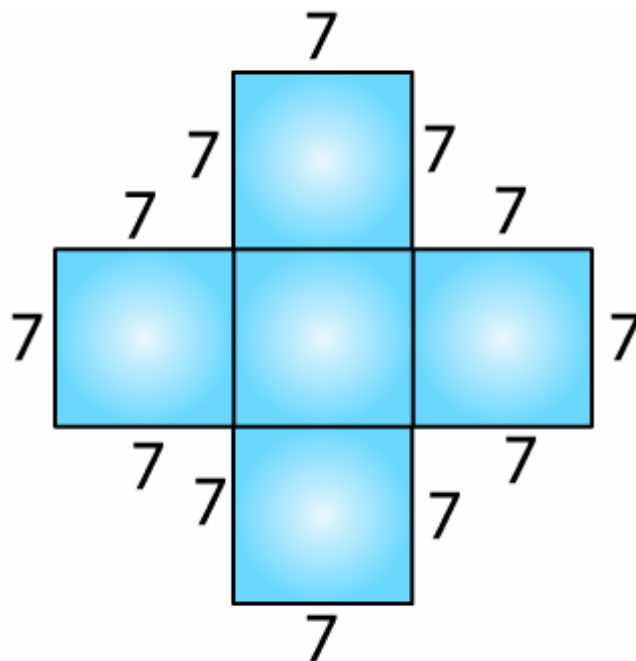
Solutions:

(a)



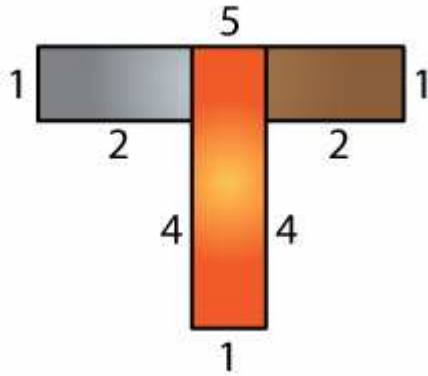
Total area of the figure = $12 \times 2 + 8 \times 2$
 $= 40 \text{ cm}^2$

(b)



There are 5 squares. Each side is 7 cm
 Area of 5 squares = 5×7^2
 $= 245 \text{ cm}^2$

(c)



Area of grey rectangle = 2×1

= 2 cm^2

Area of brown rectangle = 2×1

= 2 cm^2

Area of orange rectangle = 5×1

= 5 cm^2

Total area = $2 + 2 + 5$

= 9 cm^2

12. How many tiles whose length and breadth are 12 cm and 5 cm respectively will be needed to fit in a rectangular region whose length and breadth are respectively?

(a) 100 cm and 144 cm

(b) 70 cm and 36 cm

Solutions:

(a) Area of rectangle = 100×144

= 14400 cm

Area of one tile = 5×12

= 60 cm^2

Number of tiles = (Area of rectangle) / (Area of one tile)

= $14400 / 60$

= 240

Hence, 240 tiles are needed

(b) Area of rectangle = 70×36

= 2520 cm^2

Area of one tile = 5×12

= 60 cm^2

Number of tiles = (Area of rectangle) / (Area of one tile)

$$= 2520 / 60$$

$$= 42$$

Hence, 42 tiles are needed