Ex - 53

1. The area of figure (a) is $= (5 \times 2) = 10\ cm^2$

The area of figure (b) is $= [(4 \times 2) + (4 \times 2) + 3] = [8 + 8 + 3] = 19\ cm^2$

The area of figure (c) is $= [(5 \times 1) + 6] = [5 + 6] = 11\ cm^2$

The area of figure (d) is $= [(4 \times 1) + 2 + 1] = [4 + 3] = 7\ cm^2$

The area of figure (e) is $= [(7 \times 1) + 8 + (2 \times 1)] = [7 + 8 + 2] = 17\ cm^2$

2. (a) Length $= 5\ m$, breadth $= 12\ m$

Area $= (5 \times 12) = 60\ m^2$

(b) Length $= 21\ m$, breadth $= 14\ m$

Area $= (21 \times 14) = 294\ m^2$

(c) Length $= 150\ cm$, breadth $= 85\ cm$

Area $= (150 \times 85) = 12750\ cm^2$

(d) Length $= 3\ m\ 25\ cm = 325\ cm$, breadth $= 2\ m = 200\ cm$

Area $= (325 \times 200) = 65000\ cm^2 = 6{\cdot}5\ m^2$

(e) Length $= 8\ km = 8000\ m$, breadth $= 2\ km\ 500\ m = 2500\ m$

Area $= (8000 \times 2500) = 20,000,000\ m^2 = 20\ km^2$

3. (a) Area = 575 sq m , breadth = 23m

Length = $(575 \div 23) = 25$ m

(b) Area = 300 sq m , breadth = 15m

Length = $(300 \div 15) = 20$ m

(c) Area = 512 sqcm , breadth = 16cm

Length = $(512 \div 16) = 32$ cm

4. (a) Area = 12750 sq m , Length = 150 m

Breadth = $(12750 \div 150) = 85$ m

(b) Area = 5500 sq m , Length = 110 m

Breadth = $(5500 \div 110) = 50$ m

(c) Area = 1926 sqcm , Length = 107cm

Breadth = $(1926 \div 107) = 18$ cm

5. (a) Side of square = 15m

Area = $(15)^2 = 225\ m^2$

(b) Side of square = 18m

Area = $(18)^2 = 324\ m^2$

(c) Side of square = 20cm

Area = $(20)^2 = 400\ cm^2$

(d) Side of square = 3m 40 cm = 340cm

Area = $(340)^2 = 115600\ cm^2 = 11{\cdot}56\ m^2$

(e) Side of square = 5m 50 cm = 550cm

Area = $(550)^2 = 302500\ cm^2 = 30{\cdot}25\ m^2$

6. A garden is 800 cm long and 300 cm broad.

(Length) 800 cm = 8 m , 300 cm = 3 m (breadth)

Area of this garden is = $(8 \times 3) = 24$ sqm.

7. Length of a rectangular flower-bed is 7m 30 cm. = 730 cm

Breadth of a rectangular flower-bed is 4m 50 cm = 450 cm

Area of this rectangular flower-bed is $(730 \times 450) = 328500$ sq cm

8. Each side of the floor of a square room is 800 cm = 8 m

Area of this floor is $(8)^2 = 64$ sq m

9. Length of a path 120 m and breadth 2·4m

Area of this path is $(120 \times 2{\cdot}4) = 288$ sqm

Length of a brick 24 cm = 0·24 m and breadth 15 cm = 0·15 m

Area of this brick is $(0{\cdot}24 \times 0{\cdot}15) = 0{\cdot}036$ sqm

$(288 \div 0{\cdot}036) = (288000 \div 36) = 8000$ bricks will be required to lay a path of 288 sq m Area.

10. A field is 140 m long and 36 m broad.

A labourer can plough 120 sq m a day.

The area of the field is = $(140 \times 36) = 5040$ sq m

$(5040 \div 120) = 42$ labourers are to be engaged to plough the field in a day.

11. A courtyard is 30m long and 15 m broad.

The area of the courtyard is $(30 \times 15) = 450$ sqm.

The cost of tiling the courtyard at the rate of ₹5 per sq cm is - $(450 \times 5) =$ ₹2250

12. ~~The cost of painting the walls~~

The room is 4m 50cm high = 4·5 m and each side of the room is 6m long.

∴ The area of four walls is = $2 \times (l+b) \times h$

$= 2 \times (6+6) \times 4{\cdot}5$

$= 2 \times 12 \times 4{\cdot}5$

$= 108$ sq m

The cost of painting is Rs. 10 per sq m.

∴ The cost of painting the walls of the room is $(108 \times 10) =$ Rs. 1080

13. Area of figure (a) is, $[(4 \times 1) + (6 \times 3) + (2 \times 7)] = [4 + 18 + 14] = 36$ sqcm

Area of figure (b) is, $[1 + (4+2) + 4 + 2 + 5 + (5-1)]$

$= [1 + 6 + 4 + 2 + 5 + 4] = 22$ sqcm

Area of figure (c) is, $[(4 \times 3) + (4 \times 2) + (4 \times 1)]$

$= [12 + 8 + 4] = 24$ sq cm

Area of figure (d) is, $[(3 \times 1) + 5 + (2 \times 2) + (2 \times 4)]$

$= [3 + 5 + 4 + 8] = 20$ sq cm

Area of figure (e) is $[(2 \times 6) + (2 \times 4) + (2 \times 2) + 7 + (7-4)]$

$= [12 + 8 + 4 + 7 + 3] = 34$ sq cm

Area of figure (f) is $[4 + (3 \times 1) + (4 \times 2) + 3 + 6]$

$= [4 + 3 + 8 + 3 + 6] = 24$ sq cm