

**SESSION : 17**  
**CLASS : IV**  
**SUBJECT : MATHEMATICS**  
**CHAPTER NUMBER : 14**  
**CHAPTER NAME : PERIMETER AND AREA**  
**SUBTOPIC : AREA AND UNIT OF AREA, EX-14 B**

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**CHANGING YOUR TOMORROW**

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## LEARNING OBJECTIVE

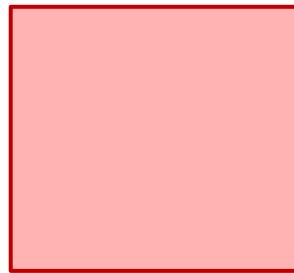
- Enable the students to understand the meaning of area, unit of area and how to find the area of different shapes.

The surface enclosed by a 2-D or plane figure is known as its **area**.

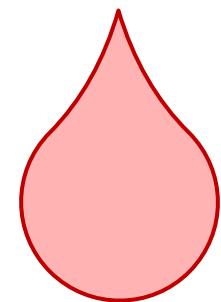
The **shaded regions** in the given figures are their respective **areas**.



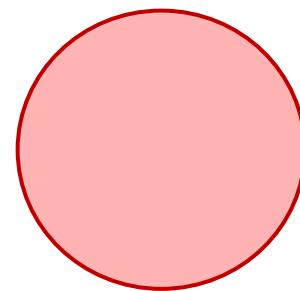
Star



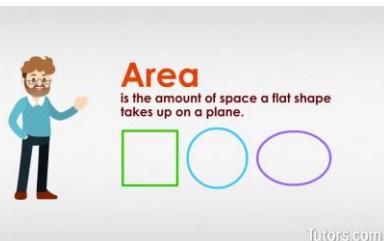
Square



Leaf



Circle

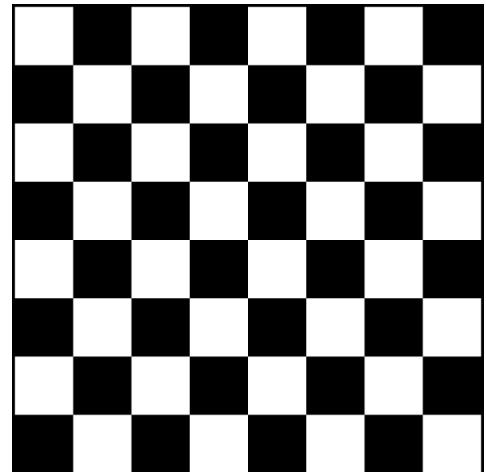


# UNIT OF AREA

We can use any plane figure as a unit to find the area of the required plane region. For example, let us consider a chessboard. It is made up of 64 squares. If we consider 1 square be 64 squares.

But for purpose of exact measurements, we use standard units of area having fixed dimensions.

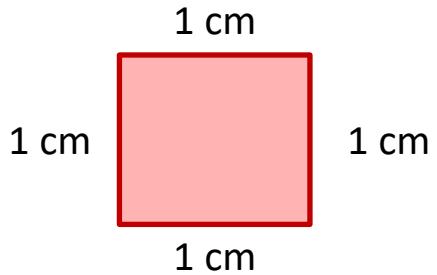
The standard units for measuring areas which we generally use are square centimetre and square metre.



# UNIT OF AREA

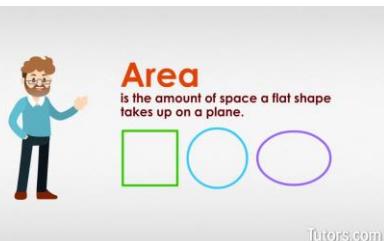
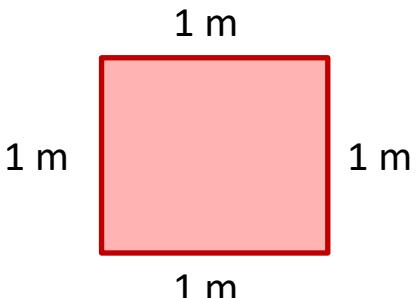
- The area of a square whose side is 1 cm long is one square centimetre.

It is written as  $\text{cm}^2$  or sq. cm.



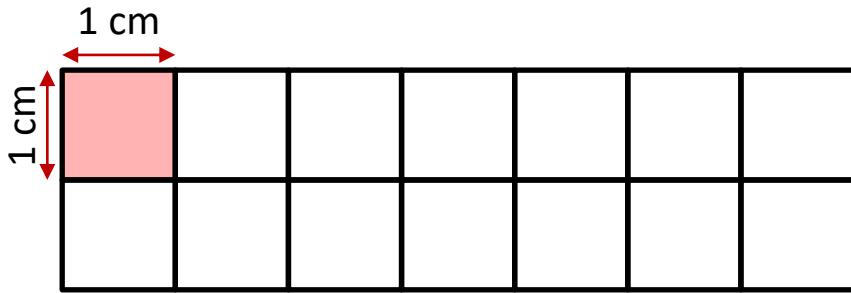
- The area of a square whose side is 1 m long is one square metre.

It is written as  $\text{m}^2$  or sq. m.



# UNIT OF AREA

**Example : 1** Calculate the area of the figure given below if the area of each square is  $1 \text{ cm}^2$ .



Area of one square =  $1 \text{ cm} \times 1 \text{ cm} = 1 \text{ cm}^2$ .

Number of squares in the figure = 14

∴ Area figure =  $1 \times 14 = 14 \text{ cm}^2$ .

# UNIT OF AREA

**Example : 2** Calculate the area of the shaded squares if the dimensions of each square are as given in the figure.



Area of one square =  $1 \text{ cm} \times 1 \text{ cm} = 1 \text{ cm}^2$ .



∴ Area of 3 squares =  $3 \times 1 \text{ cm}^2 = 3 \text{ cm}^2$

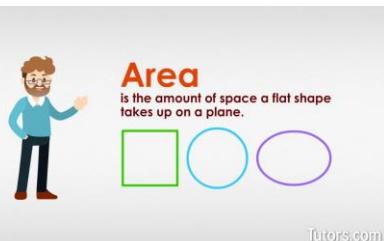
# UNIT OF AREA

**Example : 3** A floor of a room is covered with square tiles of side 1 m. the floor consists of 30 square tiles. Find the area of the floor.

$$\text{Area of 1 tile} = 1 \text{ m} \times 1 \text{ m} = 1 \text{ m}^2$$

∴ Area of the floor = area of 1 × number of tiles

$$= 1 \text{ m}^2 \times 30 = 30 \text{ m}^2$$

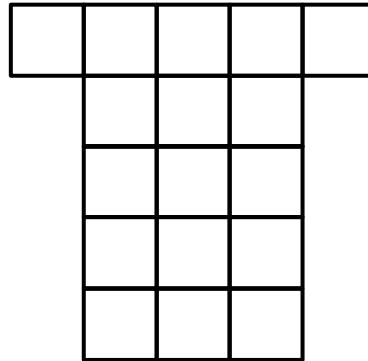


# PERIMETER

## EXERCISE – 14 (B)

- Find the area of the following figures if each square has an area of  $1 \text{ cm}^2$ .

(a)



Area : **17  $\text{cm}^2$**

Area of one square =  $1 \text{ cm} \times 1 \text{ cm} = 1 \text{ cm}^2$ .

Number of squares in the figure = 17

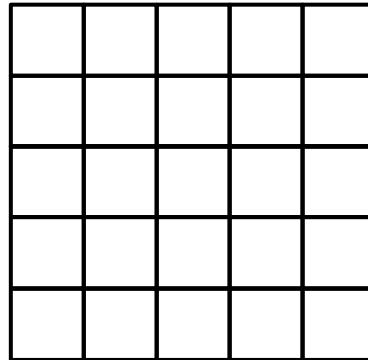
∴ Area figure =  $1 \times 17 = 17 \text{ cm}^2$ .

# PERIMETER

## EXERCISE – 14 (B)

- Find the area of the following figures if each square has an area of  $1 \text{ cm}^2$ .

(b)



Area : **25 cm<sup>2</sup>**

Area of one square =  $1 \text{ cm} \times 1 \text{ cm} = 1 \text{ cm}^2$ .

Number of squares in the figure = 25

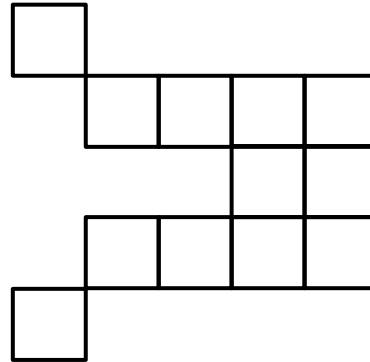
∴ Area figure =  $1 \times 25 = 25 \text{ cm}^2$ .

# PERIMETER

## EXERCISE – 14 (B)

- Find the area of the following figures if each square has an area of  $1 \text{ cm}^2$ .

(c)

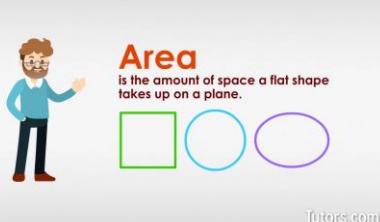


Area : **12 cm<sup>2</sup>**

Area of one square =  $1 \text{ cm} \times 1 \text{ cm} = 1 \text{ cm}^2$ .

Number of squares in the figure = 12

∴ Area figure =  $1 \times 12 = 12 \text{ cm}^2$ .

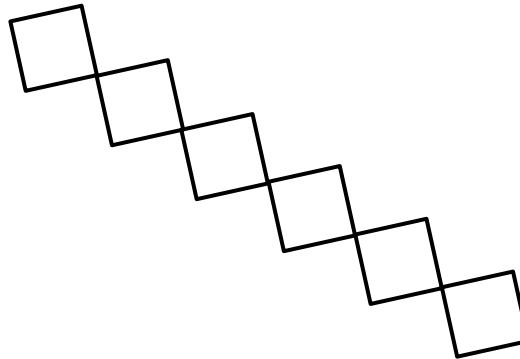


# PERIMETER

## EXERCISE – 14 (B)

- Find the area of the following figures if each square has an area of  $1 \text{ cm}^2$ .

(d)



Area : **6 cm<sup>2</sup>**

Area of one square =  $1 \text{ cm} \times 1 \text{ cm} = 1 \text{ cm}^2$ .

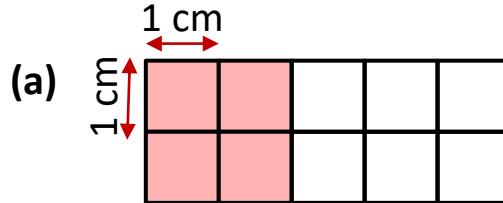
Number of squares in the figure = 6

∴ **Area figure =  $1 \times 6 = 6 \text{ cm}^2$ .**

# PERIMETER

## EXERCISE – 14 (B)

2. Find the area of the shaded region.



Area : **4 cm<sup>2</sup>**

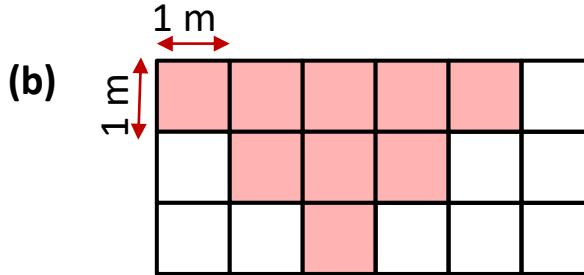
Area of one square =  $1 \text{ cm} \times 1 \text{ cm} = 1 \text{ cm}^2$ .

∴ Area of 4 squares =  $4 \times 1 \text{ cm}^2 = \boxed{4 \text{ cm}^2}$

# PERIMETER

## EXERCISE – 14 (B)

2. Find the area of the shaded region.



Area : **9 m<sup>2</sup>**

Area of one square =  $1 \text{ m} \times 1 \text{ m} = 1 \text{ m}^2$ .

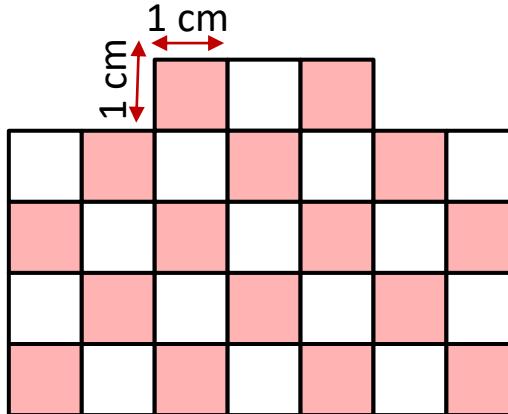
∴ Area of 9 squares =  $9 \times 1 \text{ m}^2 = 9 \text{ m}^2$

# PERIMETER

## EXERCISE – 14 (B)

2. Find the area of the shaded region.

(c)



Area :

**16 cm<sup>2</sup>**

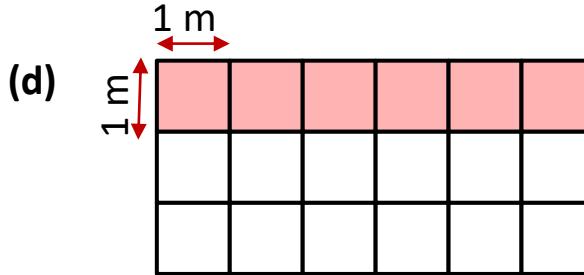
Area of one square =  $1 \text{ cm} \times 1 \text{ cm} = 1 \text{ cm}^2$ .

∴ Area of 16 squares =  $16 \times 1 \text{ cm}^2 = 16 \text{ cm}^2$

# PERIMETER

## EXERCISE – 14 (B)

2. Find the area of the shaded region.



Area : **6 m<sup>2</sup>**

Area of one square =  $1 \text{ m} \times 1 \text{ m} = 1 \text{ m}^2$ .

∴ Area of 6 squares =  $6 \times 1 \text{ m}^2 = 6 \text{ m}^2$

## **LEARNING OUTCOME:**

**Students are able to understand the meaning of area, unit of area and how to find the area of different shapes.**

**THANKING YOU**  
**ODM EDUCATIONAL GROUP**