

# Class 5<sup>th</sup> – Area and its boundary

## Area notes

- Area: The space inside the shape is called area
- Area of rectangle :  $l \times b$  where  $l = \text{length}$  and  $b = \text{breath}$
- Area of square :  $a \times a$  where  $a = \text{side}$
- Unit of area is square cm

### Question related to Area of rectangle

Q .1)Find area of rectangle whose length is 2cm and breath is 5 cm .

Ans:  $length = 2cm$

$breath = 5cm$

$Area = ?$

$$\begin{aligned} \text{Area of rectangle} &= l \times b \\ &= (2 \times 5) \\ &= (10) \\ &= 10 \text{ cm}^2 \end{aligned}$$

Q.2)If the length of rectangle is 2cm and area is 18 cm<sup>2</sup>.Find the breath of rectangle ?

Ans : :  $length = 2cm$

$breath = ?$

$Area = 18 \text{ cm}^2$

$$\begin{aligned} \text{Area of rectangle} &= l \times b \\ 18 &= 2 \times b \\ 18 \div 2 &= b \\ 9\text{cm} &= b \end{aligned}$$

### Question related to Area of square

Q .1)Find area of square whose side is 10cm

Ans:  $side = 10cm$

$Area = ?$

$$\begin{aligned} \text{Area of square} &= a \times a \\ &= 10 \times 10 \\ &= 100 \text{ cm}^2 \end{aligned}$$

Q .2)If the area of square is 81cm<sup>2</sup>.find the side of square?

Ans : Side=?

Area =81 cm<sup>2</sup>

$$\text{Area} = a \times a$$

$$81 = (a)^2$$

$$(9)^2 = (a)^2$$

$$9\text{cm} = a$$

## Perimeter notes

- Perimeter : The length of boundary is called perimeter
- Perimeter of rectangle :  $2 \times (l + b)$  where  $l = \text{length}$  and  $b = \text{breadth}$
- Perimeter of square :  $4 \times a$  where  $a = \text{side}$
- Unit of perimeter is cm

### Question related to perimeter of rectangle

Q.1) Find perimeter of rectangle whose length is 2cm and breadth is 5 cm .

$$\text{Ans: } \text{length} = 2\text{cm}$$

$$\text{breadth} = 5\text{cm}$$

$$\text{perimeter} = ?$$

$$\begin{aligned} \text{Area of rectangle} &= 2 \times (l + b) && = (2 \times 5) \\ &= 2 && \\ &= 10 \text{ cm}^2 && \end{aligned}$$

Q.2) If the length of rectangle is 2cm and perimeter is 18 cm. Find the breadth of rectangle ?

$$\text{Ans : } \text{length} = 2\text{cm}$$

$$\text{breadth} = ?$$

$$\text{perimeter} = 18 \text{ cm}$$

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

$$18 = 2 \times (2 + b)$$

$$18 \div 2 = 2 + b$$

$$9 = 2 + b$$

$$9 - 2 = b$$

$$7\text{cm} = b$$

### Question related to find No of things

**Q.1)** If the length of board is 10cm and breadth is 10cm and we want to cover the board with square sheets. The side of square sheet is 2cm. How many sheets are required to cover the board

$$\text{Ans: } \text{length of board} = 10\text{cm}$$

$$\text{side of sheet} = 2\text{cm}$$

$$\text{Breadth of board} = 10\text{cm}$$

$$\text{area of sheet} = a \times a$$

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

$$\text{area of sheet} = 2 \times 2$$

$$= 10 \times 10$$

$$= 4\text{cm}^2$$

$$= 100\text{cm}^2$$

$$\text{No of sheet} = \frac{\text{area of board}}{\text{area of sheet}}$$

$$= \frac{100}{4} = 25 \text{ sheets}$$

Q .2) If the length of room is 20cm and breath is 20cm and room floor is to be cover with square tile.The side of square tile is 2cm .How many tile are required to cover the board

**Ans** :length of room = 20cm  
 Breath of room = 20cm  
 Area of board =  $l \times b$   
 $= 20 \times 20$   
 $= 400 \text{ cm}^2$

side of tile = 2cm  
 area of tile =  $a \times a$   
 area of tile =  $2 \times 2$   
 $= 4 \text{ cm}^2$

$$\text{No of sheet} = \frac{\text{area of board}}{\text{area of sheet}}$$

$$= \frac{400}{4}$$

$$= 100 \text{ sheets}$$

**Question related to perimeter and area both**

Q .1)If the area of square is  $9 \text{ cm}^2$ .Find the perimeter of square

Ans : perimeter =?

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

$$\text{Area} = a \times a$$

$$9 = (a)^2$$

$$(3)^2 = (a)^2$$

$$3 \text{ cm} = a$$

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

$$= 4 \times 3$$

$$= 12 \text{ cm}$$

Q .2)If the perimeter of square is 32cm . Find the area of square?

Ans : perimeter = 32cm

Area =?

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

$$32 \text{ cm} = 4 \times a$$

$$32 \div 4 = a$$

$$8\text{cm}=a$$

$$\text{Area} = a \times a$$

$$=8 \times 8$$

$$=64\text{cm}^2$$