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SUBJECT: MATHS TITLE: AREA AND ITS BOUNDARY(NOTES)

CLASS: V MONTH: DECEMBER

AREA:

The surface inside the shape is called **Area**.



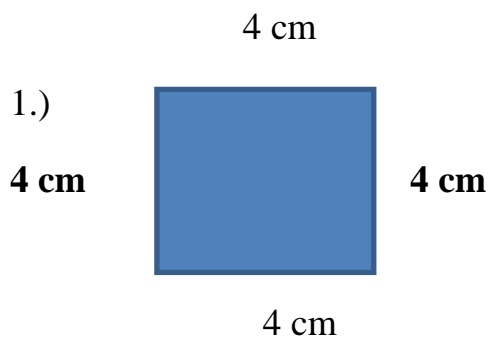
PERIMETER:

The length of the boundary is called **Perimeter**.

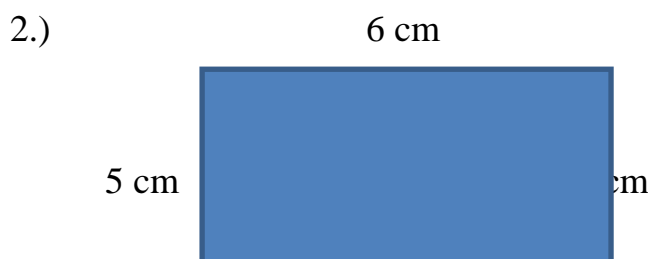
FORMULAS:

- 1.) Area of a square = $a \times a$ sq.uts.
- 2.) Perimeter of a square = $4 \times a$ uts.
- 3.) Area of a Rectangle = $L \times B$ sq.uts.
- 4.) Perimeter of a Rectangle = $2 \times (L + B)$ uts.

When we add all the sides of any shape ,we get Length of the boundary of that shape or its Perimeter.

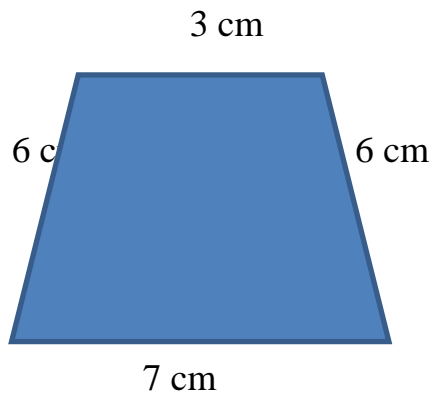


Ans: Perimeter = $4 \text{ cm} + 4 \text{ cm} + 4 \text{ cm} + 4 \text{ cm} = 16 \text{ cm}$



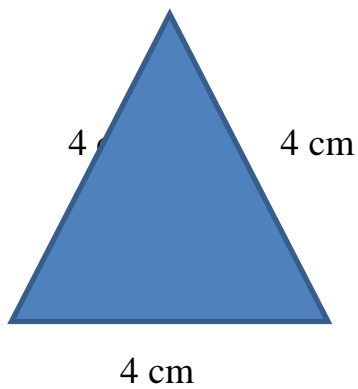
Ans: Perimeter = 6 cm + 5 cm + 6 cm + 5 cm = 22 cm

3.)



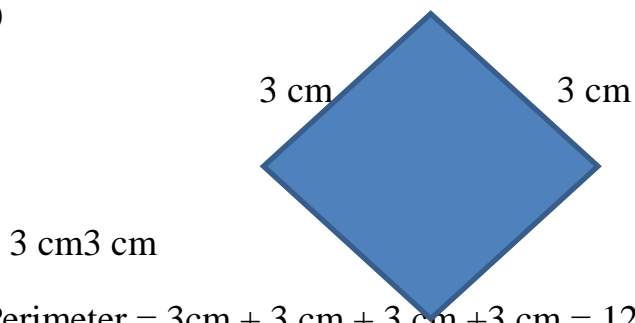
Perimeter = 3 cm + 6 cm + 6 cm + 7 cm = 22 cm

4.)



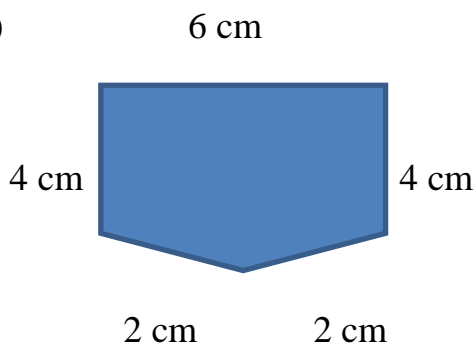
Perimeter = 4 cm + 4 cm + 4 cm = 12 cm

5.)



Perimeter = 3 cm + 3 cm + 3 cm + 3 cm = 12 cm

6.)



Perimeter = 6 cm + 4 cm + 4 cm + 2 cm + 2 cm = 18 cm

SQUARE:

S.NO	SIDE	AREA	PERIMETER
1.	9 CM	81 SQ.CM	36 CM
2.	5 CM	25 SQ.CM	20 CM
3.	11 M	121 SQ.M	44 M
4.	100 CM	10000SQ.CM	400 CM
5.	3 CM	9 SQ.CM	12 CM

RECTANGLE

S.NO	LENGTH	BREADTH	AREA	PERIMETER
1.	4 CM	2 CM	8 SQ.CM	12 CM
2.	6 M	7 CM	42 SQ.M	26 M
3.	5 CM	10 CM	50SQ.CM	30 CM
4.	3 CM	5 CM	15SQ.CM	16 CM
5.	2 M	7 M	14 SQ.M	18 M

WORD PROBLEMS:

1.) Find the Area and Perimeter of a Square whose side is 12 cm:

Ans: i.) Area of a square = $a \times a = 12 \times 12 = 144 \text{ sq.cm}$

ii.) Perimeter of a square = $4 \times a = 4 \times 12 = 48 \text{ cm}$

2.) Find the Area and Perimeter of a Square whose side is 7 m:

Ans: i.) Area = $a \times a = 7 \times 7 = 49 \text{ sq.m}$

ii.) Perimeter = $4 \times a = 4 \times 7 = 28 \text{ m.}$

3.) Find the Area and Perimeter of a Rectangle whose length is 6 cm and breadth is 4 cm:

Ans: i.) Area of a Rectangle = $l \times b = 6 \times 4 = 24$ sq.cm

ii.) Perimeter of a Rectangle = $2 \times (l + b) = 2 \times (6 + 4) = 2 \times 10 = 20$ cm.

4.) Find the Area and Perimeter of a Rectangle whose length is 5 cm and Breadth is 2 cm :

Ans: i.) Area = $l \times b = 5 \times 2 = 10$ sq.cm

ii.) Perimeter = $2 \times (l + b) = 2 \times (5 + 2) = 2 \times 7 = 14$ cm.

5.) If the Perimeter of a square is 40 m then , find its side:

Ans: Perimeter of a square = $4 \times a$ m

$$4a = 40 \text{ m}$$

$$\text{Then , } a = 40 / 4 = 10 \text{ m.}$$

6.) If the Area of a Rectangle is 30 sq.cm and Length is 6 cm.Then find its Breadth and also find its Perimeter:

Ans: Area of a Rectangle = $l \times b$ sq.uts.

$$6 \times b = 30$$

$$\text{Then } b = 30 / 6 = 5 \text{ cm.}$$

$$\text{Perimeter} = 2 \times (l + b) = 2 \times (6 + 5) = 22 \text{ cm.}$$

7.) Arbaz plans to tile his kitchen floor with green square tiles.Each side of the tile is 10 cm. His kitchen is 220 cm in length and 180 cm in breadth.How many tiles will he need?

Ans:



i.) Area of a tile = $a \times a = 10 \times 10 = 100$ sq.cm

ii.) Area of a kitchen floor = $l \times b = 220 \times 180 = 39600$ cm.

$$\text{Number of tiles} = \text{Area of a kitchen floor} / \text{Area of a tile} = 39600 / 100 = 396 \text{ tiles.}$$

8.) The Fencing of square garden is 20 m in length.How long is one side of the garden?

Ans: Perimeter = 20 m

$$\text{Perimeter of a square} = 4 \times a = 4 \times 20 = 80 \text{ m.}$$

9.) Find the cost of a fencing of a Rectangular park of 120 m length and 80 m breadth at a rate of Rs.2 per metre:

Ans: L = 120 m , B = 80 m

Perimeter of a rectangle = $2 \times (l + b)$ uts.

$$= 2 \times (120 + 80) = 2 \times 200 = 400 \text{ m.}$$

Cost of fencing = Rs.2 per metre

Then Cost of fencing of 400 m = $400 \times 2 = \text{Rs. } 800$

10.) The Area of a square is 25 sq.cm.What is its Perimeter?

Ans: Area of a square = $a \times a$ sq.uts.

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

$$a = 5 \text{ cm.}$$

$$\text{Perimeter} = 4 \times a = 4 \times 5 = 20 \text{ cm.}$$

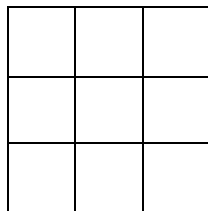
FIND THE AREA OF THE FOLLOWING SQUARES:

1.)



Side = 3 cm

Ans:

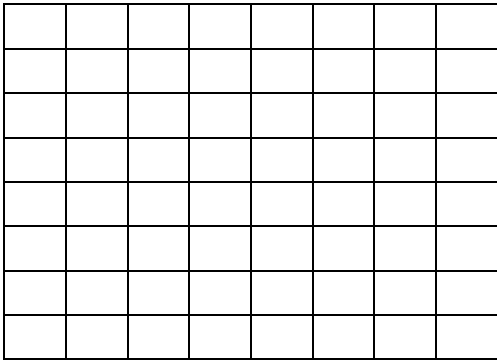


$$\text{Area of a square} = 3 \times 3 = 9 \text{ sq.cm}$$

2.) Side = 8 m



Ans:



Area of a square = $8 \times 8 = 64$ sq.m