

HAND OUT

CLASS-VI

SUBJECT-MATHEMATICS

LESSON-10

MENSURATION

MODULE -2/2

AREA

*There are plane closed figures like triangle ,rectangle ,square, circle etc.

*AREA -The amount of surface enclosed by a closed figure is called its area.

*We find the area with the help of graph paper.

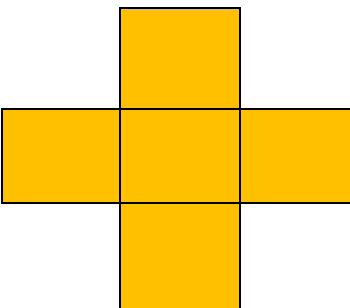
*One full square is equal to

1 cm X 1 cm = 1 square cm.

*One half square is $\frac{1}{2}$ square cm.

Find the area of the following figures

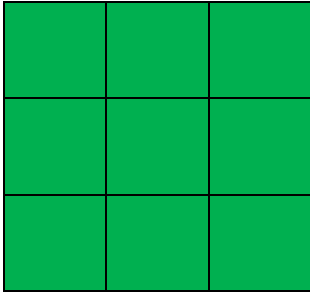
a.



Fully filled squares =5

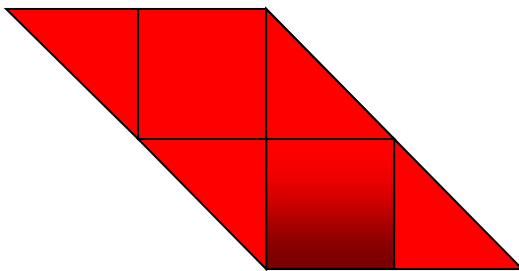
Area = 5 sq.units

b.



Fully filled squares=9 so, Area=9 sq. Units

c.



Fully filled square=2

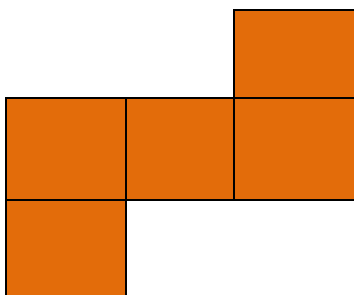
Half filled square=4

$$\text{Area} = 2 + \frac{1}{2} \times 4$$

$$= 2 + 2$$

$$= 4 \text{ sq. units}$$

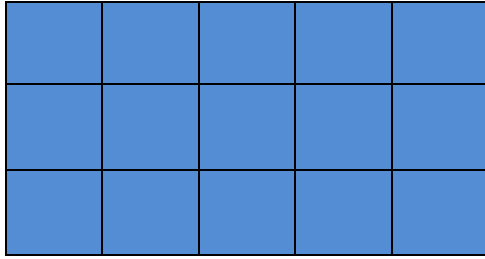
d.



Fully filled squares are five

Area = 5 sq. Units

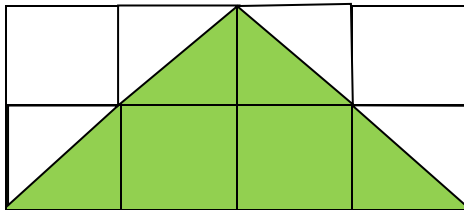
e.



Fully filled squares are 15

Area= 15 sq.units

f.



It is a triangle. It has two full squares and 4 half squares.

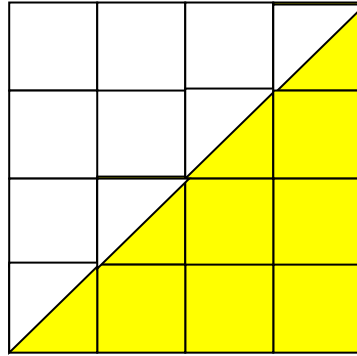
Area of triangle= 2 full squares + 4 half squares

$$= 2 \times 1 \text{ sq. unit} + 4 \times \frac{1}{2} \text{ sq. unit}$$

$$= 2 \text{ sq. unit} + 2 \text{ sq. Unit}$$

$$= 4 \text{ sq. Units.}$$

g.



This is a triangle. It has 6 fully filled squares and 4 half filled squares.

Area of triangle=6 fully filled squares + 4 half filled squares

$$= 6 \times 1 \text{ sq.unit} + 2 \text{ sq.unit}$$

$$= 8 \text{ sq.units}$$

* Area of a rectangle = length x breadth

Area of a rectangle is equal to the product of its **length** and **breadth**.

Area of a square= side x side

Area of a square is equal to the product of its sides two times.

EXAMPLES-

1.Find the area of a rectangle whose length and breadth are 12 cm and 8 cm respectively.

Solution :-

Length of the rectangle =12 cm

Breadth of the rectangle = 8 cm

Area of the rectangle = Length x Breadth

$$= 12 \text{ cm} \times 8 \text{ cm}$$

$$= 96 \text{ sq.cm}$$

So, the area of the rectangle is 96 sq.cm.

2. Find the area of a square plot of side 9 m.

Solution :- Side of a square = 9 m

Area of the square = side x side

$$= 9 \text{ m} \times 9 \text{ m}$$

$$= 81 \text{ sq.m}$$

So, the area of the square plot is 81 sq.m.

3. The area of a rectangular piece of cardboard is 54 sq. cm and its length is 9 cm. What is the width of the cardboard ?

Solution :- Area of the rectangle = 54 sq.cm

Length of the rectangle = 9 cm

Width of the rectangle = ?

Area of the rectangle = Length x Width

Or 54 sq.cm=9 cm x width

Or 54 sq.cm /9 cm = width

Or 6 cm = width

The width of the rectangular cardboard is 6 cm.

4.Bob wants to cover the floor of a room 3 m wide and 4 m long by square tiles.If each square tile is of side 0.5 m , then find the number of tiles required to cover the floor of the room.

Solution :- Length of the room = 4 m

Width of the room = 3 m

Area of the room= length x breadth

= 4 m x 3 m

= 12 sq. m

Side of the tile = 0.5 m

Area of the tile =side x side

= 0.5m x 0.5 m

$$= 0.25 \text{ sq.m}$$

Number of tiles required = Area of the room / Area of a tile

$$= 12 \text{ sq.m} / 0.25 = 12 \times 100 / 25$$

$$= 48 \text{ tiles}$$

So, 48 tiles are required to cover the floor of the room.