CHAPTER 11

Areas

Introduction:

In previous chapters, you have seen that the study of geometry, organized with the measurement of earth in the process of recasting boundaries of the fields and dividing them into appropriate parts. For example, a farmer Bangar Raju had a triangular field and he wanted to divide it equally among his two sons and one daughter. Without actually calculating the area of the field, he just divided one side of the triangular field into 3 equal parts and joined the two points of the division to the opposite vertex. In this way, the field was divided into 3 parts and he gave one part to each of his children. Do you think that all the three parts so obtained by him are, in fact, equal in area?

To get answers to this type of question and other related problems, there is a need to look at areas of plane figures, which you have already studied in earlier classes.

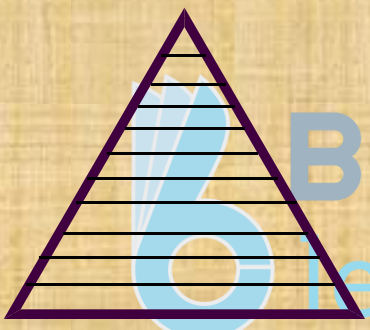
Area of plane regions:

The part of the plane enclosed by a simple closed figure is called a planar region.

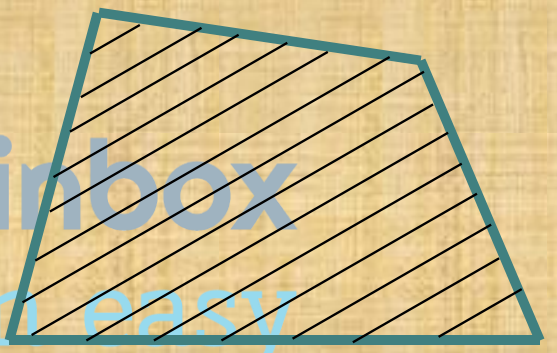
The magnitude or the measure of the planar region is called its area.

A planar region consists of a boundary and an interior region. The magnitude or measure of these regions (i.e., Areas) is always expressed with a positive real number such as 10 cm^2, 12 m^2, 5 km^2, 15 hectares etc.

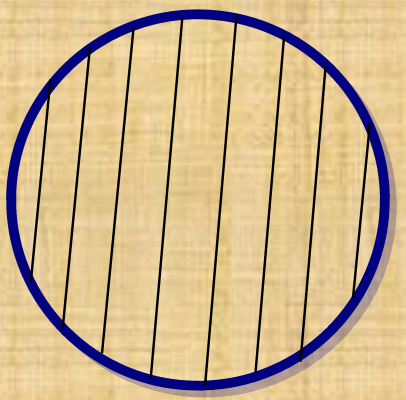
"We can say that the area of a figure is a number (In some unit of area) associated with the part of the plane enclosed by the figure".



Triangular Region

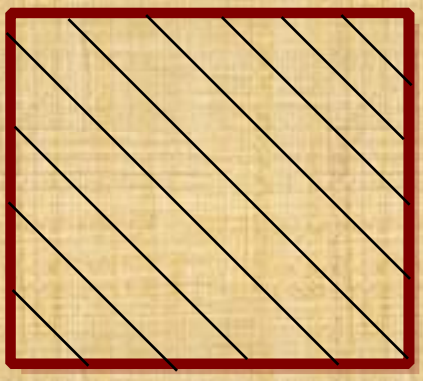


Quadrilateral Region



Circular Region

Rectangular Region



Square Region