

Chapter -10

Practical Geometry

In this Chapter, we looked into the methods of some ruler and compasses constructions.

- Given a line l and a point not on it, we used the idea of 'equal alternate angles' in a transversal diagram to draw a line parallel to l .

We could also have used the idea of 'equal corresponding angles' to do the construction.

- **Construction of Parallel Lines:** Draw a line segment l and mark a point A not lying on it.
- Take any point B on l and join B to A .
- With B as centre and convenient radius, draw an arc cutting l at C and AB at D .
- Now with A as centre and the same radius as in above step draw an arc EF cutting AB at G .
- Place the metal point of the compasses at C and adjust the opening so that the pencil point is at D .
- With the same opening as in above step and with G as centre draw another arc cutting the arc EF at H .
- Now join AH and draw a line m .
- We studied the method of drawing a triangle, using indirectly the concept of congruence of triangles.

The following cases were discussed:

- (i) SSS: Given the three side lengths of a triangle.
- (ii) SAS: Given the lengths of any two sides and the measure of the angle between these sides.
- (iii) ASA: Given the measures of two angles and the length of side included between them.
- (iv) RHS: Given the length of hypotenuse of a right-angled triangle and the length of one of its legs.