CHAPTER 4

Practical Geometry

To construct a quadrilateral when two adjacent sides and three angles are given (SSAAA) case:

Three angles of the quadrilateral are given, therefore the fourth angle can be calculated using the angle sum property.

Example:

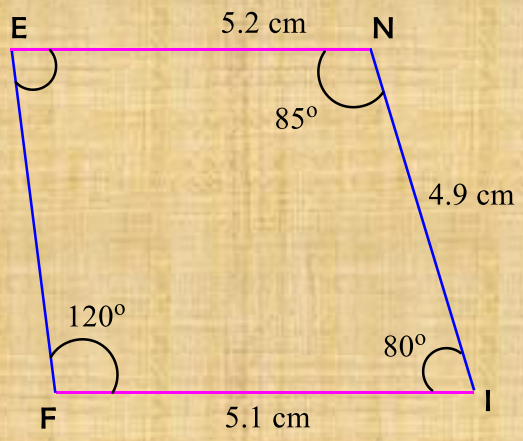
Construct a quadrilateral "FINE", in which FI = 5.1 cm, IN = 4.9 cm, $\angle I = 80^o$, $\angle F = 120^o$ and $\angle E = 75^o$.

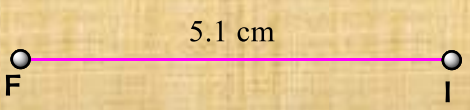
Sol.

Draw a rough figure and label it with the given measurements as shown. Follow the given steps to construct the quadrilateral.

Step I:

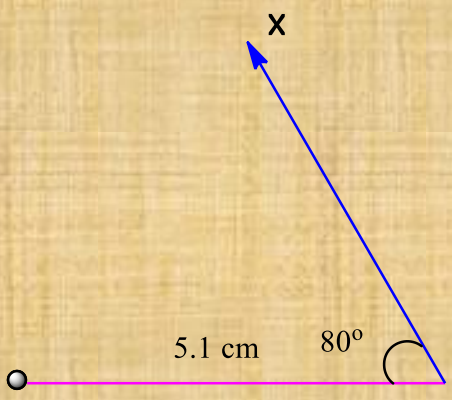
Draw line segment FI = 5.1 cm.





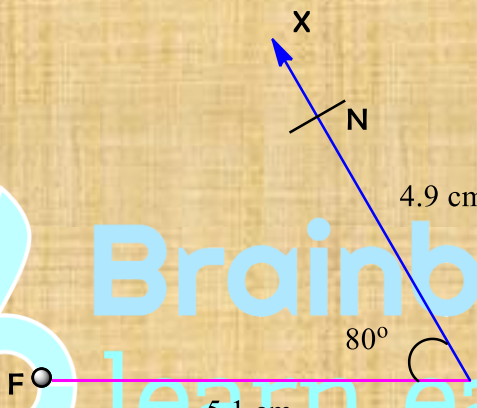
Step II:

At I, draw a ray IX with $\angle I = 80^o$.



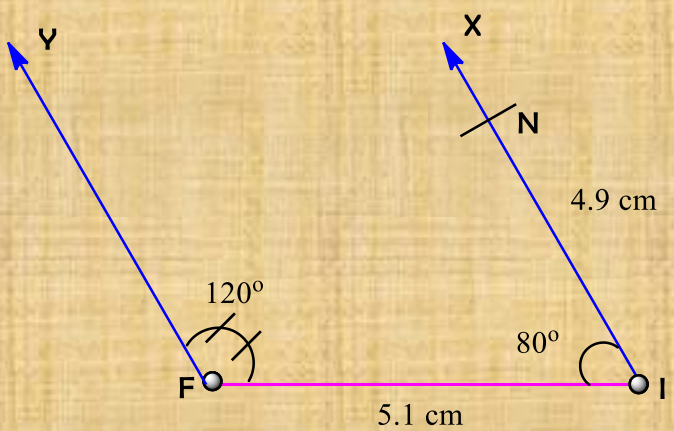
Step III:

With 'I' as centre radius 4.9 cm, draw an arc to cut IX at 'N'.



Step IV:

At 'F' draw a ray FY such that $\angle F = 120^o$, using a compass and a ruler or using a protractor.



Step V:

At ‘N’ draw an angle equal to $360^o - (80 + 120 + 75^o) = 85^o$ of ray NZ.