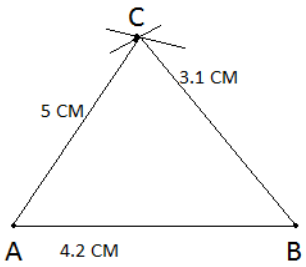
Construction of Triangles

When all the sides are given

Example: Construct a triangle ABC in which AB = 4.2 cm, BC = 3.1 cm, CA = 5 cm.

Solution: We have to follow the given steps to construct a triangle when all the sides are given:



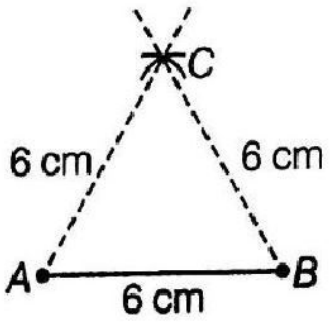
1. Draw a line segment AB of 4.2 cm.
2. From point A cut an arc of 5 cm.
3. From point B cut an arc of 3.1 cm.
4. Join the point on which both the arcs meet.

Equilateral Triangle whose side is given

Example: Construct an equilateral triangle ABC of side 6 cm.

Solution: We have to follow the given steps to construct an equilateral triangle:

1. Draw a line segment AB = 6 cm
2. Draw an arc of radius 6 cm from point A.
3. Now, draw another arc of radius 6 cm from point B to cut the previous arc at C.
4. Join A to C and B to C.



Hence, ΔABC is the required triangle.

Construction of Triangles

When Two Sides and the Angle between them are given

Example: Construct a triangle ABC whose two sides AB = 5 cm, AC = 4 cm and the angle between them is 70°.

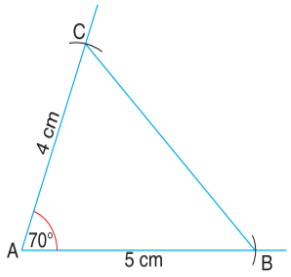
Solution: We have to follow the given steps to construct a triangle whose two sides and the angle between them are given:

1. Draw a line segment AB = 5 cm.

2. Draw a line at point A making an angle of 70° with AB.

3. With point A as centre, draw an arc of radius 4 cm, which cuts the drawn line of Step 2) at point C.

4. Join points B and C.



Thus, Δ ABC is the required triangle drawn.

When One Side and Two Angles are given

Example: Construct a triangle ABC whose one side AB = 5 cm and two angles ∠BAC = 40°, ∠ABC = 50°.

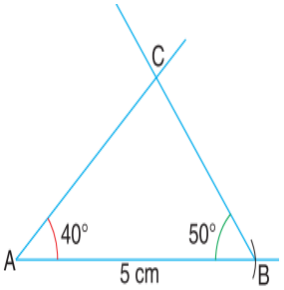
Solution: We have to follow the given steps to construct a triangle whose one side and two angles are given:

1. Draw a line segment AB = 5 cm.

2. Draw a line at point A making an angle of 40° with AB.

3. Draw another line at point B making an angle of 50° with AB.

4. Name the point of intersection of these two lines as C.



Thus, ΔABC is the required triangle drawn.