

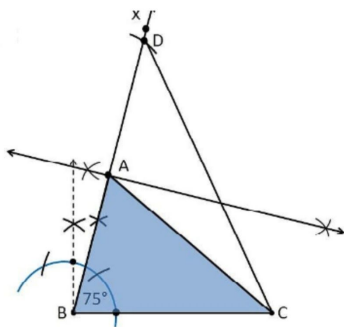
NCERT Class 9 Maths Constructions Solved Exercise 11.2 By-Ashish Jha

1. Construct a triangle ABC in which BC = 7 cm, $\angle B = 75^\circ$ and $AB+AC = 13$ cm.

Construction Procedure:

The steps to draw the triangle of given measurement is as follows:

1. Draw a line segment of base BC = 7 cm
2. Measure and draw $\angle B = 75^\circ$ and draw the ray BX
3. Take a compass and measure $AB+AC = 13$ cm.
4. With B as centre and draw an arc at the point be D
5. Join DC
6. Now draw the perpendicular bisector of the line BD and the intersection point is taken as A.
7. Now join AC
8. Therefore, ABC is the required triangle.



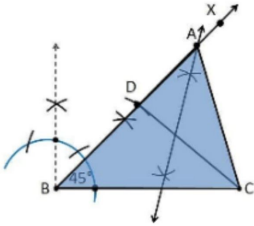
2. Construct a triangle ABC in which BC = 8 cm, $\angle B = 45^\circ$ and $AB-AC = 3.5$ cm.

Construction Procedure:

The steps to draw the triangle of given measurement is as follows:

1. Draw a line segment of base BC = 8 cm
2. Measure and draw $\angle B = 45^\circ$ and draw the ray BX
3. Take a compass and measure $AB-AC = 3.5$ cm.

4. With B as centre and draw an arc at the point be D on the ray BX
5. Join DC
6. Now draw the perpendicular bisector of the line CD and the intersection point is taken as A.
7. Now join AC
8. Therefore, ABC is the required triangle.

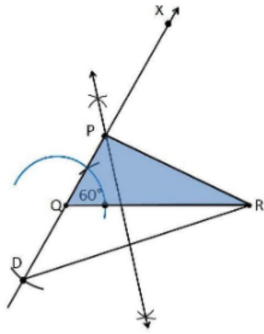


3. Construct a triangle PQR in which $QR = 6\text{cm}$, $\angle Q = 60^\circ$ and $PR - PQ = 2\text{cm}$.

Construction Procedure:

The steps to draw the triangle of given measurement is as follows:

1. Draw a line segment of base $QR = 6\text{ cm}$
2. Measure and draw $\angle Q = 60^\circ$ and let the ray be QX
3. Take a compass and measure $PR - PQ = 2\text{cm}$.
4. Since $PR - PQ$ is negative, QD will below the line QR.
5. With Q as centre and draw an arc at the point be D on the ray QX
6. Join DR
7. Now draw the perpendicular bisector of the line DR and the intersection point is taken as P.
8. Now join PR
9. Therefore, PQR is the required triangle.



4. Construct a triangle XYZ in which $\angle Y = 30^\circ$, $\angle Z = 90^\circ$ and $XY+YZ+ZX = 11$ cm.

Construction Procedure:

The steps to draw the triangle of given measurement is as follows:

1. Draw a line segment AB which is equal to $XY+YZ+ZX = 11$ cm.
2. Make an angle $\angle Y = 30^\circ$ from the point A and the angle be $\angle LAB$
3. Make an angle $\angle Z = 90^\circ$ from the point B and the angle be $\angle MAB$
4. Bisect $\angle LAB$ and $\angle MAB$ at the point X.
5. Now take the perpendicular bisector of the line XA and XB and the intersection point be Y and Z respectively.
6. Join XY and XZ
7. Therefore, XYZ is the required triangle

