



SpeedLabs

MATHS

CBSE 9th

TEEVRA EDUTECH PVT. LTD.

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

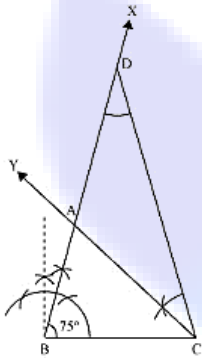
Ans - The below given steps will be followed to construct the required triangle.

Step I: Draw a line segment BC of 7 cm. At point B, draw an angle of 75° , say $\angle XBC$.

Step II: Cut a line segment $BD = 13$ cm (that is equal to $AB + AC$) from the ray BX.

Step III: Join DC and make an angle DCY equal to $\angle BDC$.

Step IV: Let CY intersect BX at A. $\triangle ABC$ is the required triangle.



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

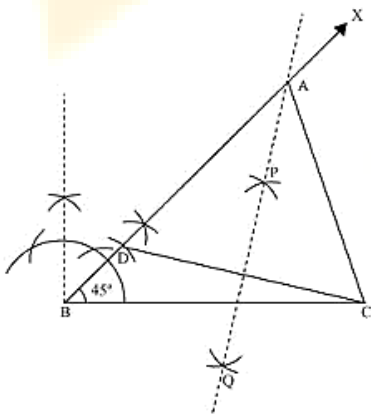
Ans - The below given steps will be followed to draw the required triangle.

Step I: Draw the line segment $BC = 8$ cm and at point B, make an angle of 45° , say $\angle XBC$.

Step II: Cut the line segment $BD = 3.5$ cm (equal to $AB - AC$) on ray BX.

Step III: Join DC and draw the perpendicular bisector PQ of DC.

Step IV: Let it intersect BX at point A. Join AC. $\triangle ABC$ is the required triangle.

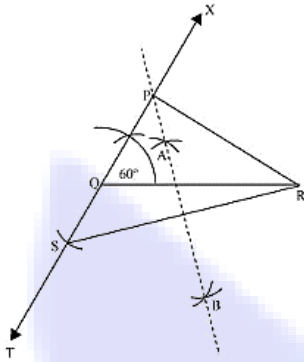


Q.3 The below given steps will be followed to construct the required triangle.

Ans - Step I: Draw line segment QR of 6 cm. At point Q, draw an angle of 60° , say $\angle XQR$.

Step II: Cut a line segment QS of 2 cm from the line segment QT extended in the opposite side of line segment XQ. (As $PR > PQ$ and $PR - PQ = 2$ cm). Join SR.

Step III: Draw perpendicular bisector AB of line segment SR. Let it intersect QX at point P. Join PQ, PR. $\triangle PQR$ is the required triangle.



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

The below given steps will be followed to construct the required triangle.

Ans - Step I: Draw a line segment AB of 11 cm.

(As $XY + YZ + ZX = 11$ cm)

Step II: Construct an angle, $\angle PAB$, of 30° at point A and an angle, $\angle QBA$, of 90° at point B.

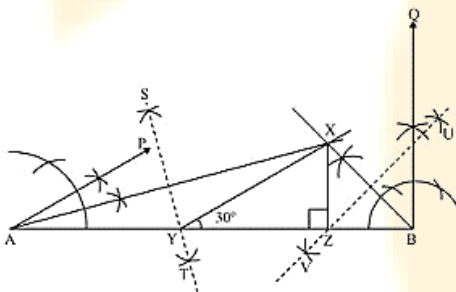
Step III: Bisect $\angle PAB$ and $\angle QBA$. Let these bisectors intersect each other at point X.

Step IV: Draw perpendicular bisector ST of AX and UV of BX.

Step V: Let ST intersect AB at Y and UV intersect AB at Z.

Join XY, XZ.

$\triangle XYZ$ is the required triangle.



Q.5 Construct a right triangle whose base is 12 cm and sum of its hypotenuse and other side is 18 cm.

Ans - The below given steps will be followed to construct the required triangle.

Step I: Draw line segment AB of 12 cm. Draw a ray AX making 90° with AB.

Step II: Cut a line segment AD of 18 cm (as the sum of the other two sides is 18) from ray AX.

Step III: Join DB and make an angle DBY equal to ADB.

Step IV: Let BY intersect AX at C. Join AC, BC.

$\triangle ABC$ is the required triangle.

