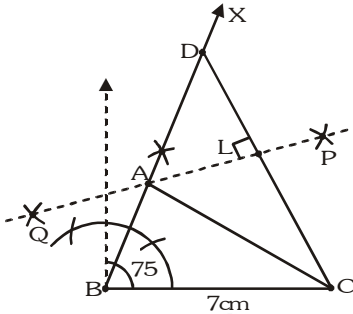


Ex - 11.2

Q1. Construct a triangle ABC in which $BC = 7$ cm, $\angle B = 75^\circ$ and $AB + AC = 13$ cm.

Sol.

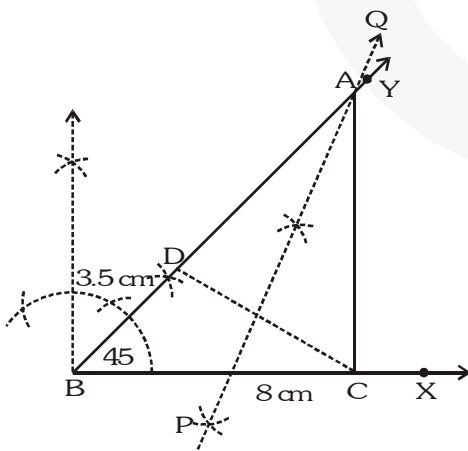


Q2. Construct a triangle ABC in which $BC = 8$ cm, $\angle B = 45^\circ$ and $AB - AC = 3.5$ cm.

Sol. Steps of construction :

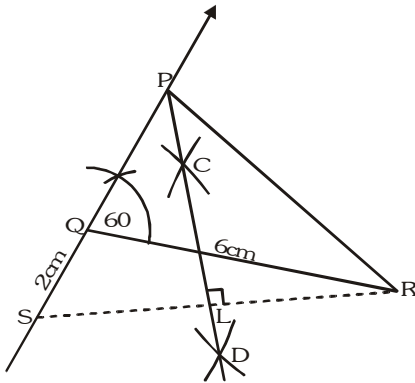
1. Draw a ray \overline{BX} .
2. Along \overline{BX} , cut off a line segment $BC = 8$ cm.
3. Construct $\angle CBY = 45^\circ$
4. From BY , cut off $BD = 3.5$ cm.
5. Join DC .
6. Draw PQ , perpendicular bisector of DC , which intersects \overline{BY} at A .
7. Join AC .

Thus, ABC is the required triangle.



Q3. Construct a triangle PQR in which $QR = 6$ cm, $\angle Q = 60^\circ$ and $PR - PQ = 2$ cm.

Sol.

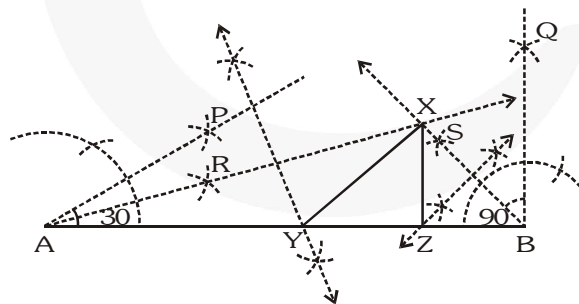


Q4. Construct a triangle XYZ in which $\angle Y = 30^\circ$, $\angle Z = 90^\circ$ and $XY + YZ + ZX = 11$ cm.

Sol. Steps of construction :

1. Draw a line segment $AB = 11$ cm
 $= (XY + YZ + ZX)$
2. Construct $\angle BAP = 30^\circ$
3. Construct $\angle ABQ = 90^\circ$
4. Draw AR, the bisector of $\angle BAP$.
5. Draw BS, the bisector of $\angle ABQ$. Let AR and BS intersect at X.
6. Draw perpendicular bisector of AX, which intersects AB at Y.
7. Draw perpendicular bisector of XB, which intersects AB at Z.
8. Join XY and XZ.

Thus, ΔXYZ is the required triangle.



Q5. Construct a right triangle whose base is 12 cm and sum of its hypotenuse and other side is 18 cm.

- Sol.**
- BC = 12 cm
 - BD = 18 cm
 - AC = AD.

Here, $AB + AC = AB + AD = BD = 18$ cm.

