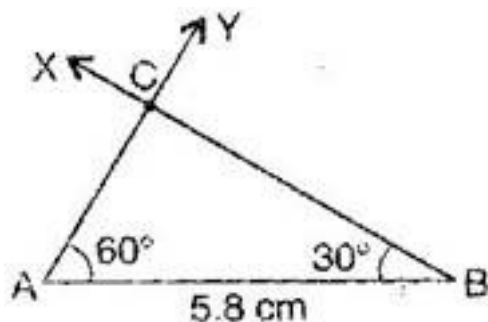


CBSE Class –VII Mathematics
NCERT Solutions
Chapter 10 Practical Geometry (Ex. 10.4)

Question 1. Construct $\triangle ABC$, given $m\angle A = 60^\circ$, $m\angle B = 30^\circ$ and $AB = 5.8$ cm.

Answer: To construct: $\triangle ABC$ where $m\angle A = 60^\circ$, $m\angle B = 30^\circ$ and $AB = 5.8$ cm.



Steps of construction:

- (a) Draw a line segment $AB = 5.8$ cm.
- (b) At point A, draw an angle $\angle YAB = 60^\circ$ with the help of compass.
- (c) At point B, draw $\angle XBA = 30^\circ$ with the help of compass.
- (d) AY and BX intersect at the point C.

It is the required triangle ABC.

Question 2. Construct $\triangle PQR$ if $PQ = 5$ cm, $m\angle PQR = 105^\circ$ and $m\angle QRP = 40^\circ$.

Answer: Given: $m\angle PQR = 105^\circ$ and $m\angle QRP = 40^\circ$

We know that sum of angles of a triangle is 180° .

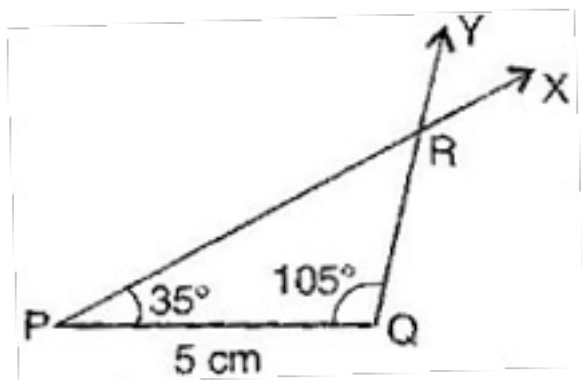
$$\therefore m\angle PQR + m\angle QRP + m\angle QPR = 180^\circ$$

$$\Rightarrow 105^\circ + 40^\circ + m\angle QPR = 180^\circ$$

$$\Rightarrow 145^\circ + m\angle QPR = 180^\circ$$

$$\Rightarrow m\angle QPR = 180^\circ - 145^\circ$$

$$\Rightarrow m\angle QPR = 35^\circ$$



To construct: $\triangle PQR$ where $m\angle P = 35^\circ$, $m\angle Q = 105^\circ$ and $PQ = 5$ cm.

Steps of construction:

- Draw a line segment $PQ = 5$ cm.
- At point P, draw $\angle XPQ = 35^\circ$ with the help of protractor.
- At point Q, draw $\angle YQP = 105^\circ$ with the help of protractor.
- XP and YQ intersect at point R.

It is the required triangle PQR.

Question 3. Examine whether you can construct $\triangle DEF$ such that $EF = 7.2$ cm, $m\angle E = 110^\circ$ and $m\angle F = 80^\circ$. Justify your answer.

Answer: Triangle DEF cannot be constructed since $\text{Angle } E + \text{Angle } F = 110^\circ + 80^\circ = 190^\circ$

and the sum of all the angles of triangle is 180° .