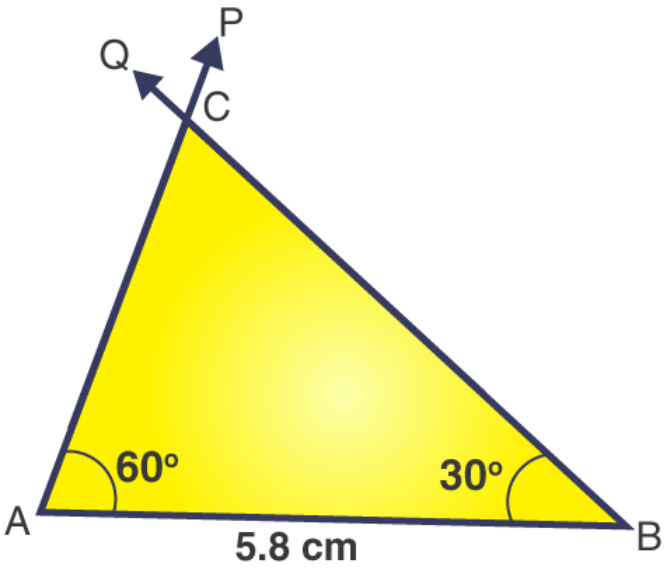
Access answers to Maths NCERT Solutions for Class 7 Chapter 10 – Practical Geometry Exercise 10.4

1. Construct ΔABC, given m ∠A =60°, m ∠B = 30° and AB = 5.8 cm.

Solution:-



Steps of construction:

1. Draw a line segment AB = 5.8 cm.

2. At point A, draw a ray P to making an angle of 60^o i.e. ∠PAB = 60^o.

3. At point B, draw a ray Q to making an angle of 30^o i.e. ∠QBA = 30^o.

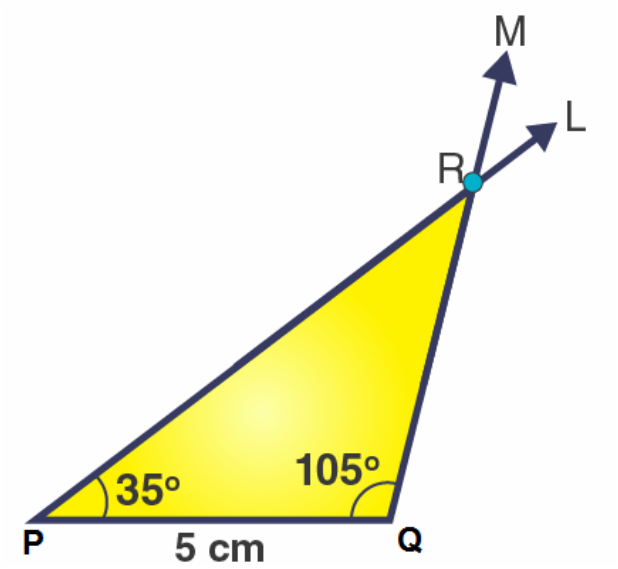
4. Now the two rays AP and BQ intersect at the point C.

Then, ΔABC is the required triangle.

2. Construct ΔPQR if PQ = 5 cm, m∠PQR = 105° and m∠QRP = 40°.

(Hint: Recall angle-sum property of a triangle).

Solution:-



We know that the sum of the angles of a triangle is 180^o.

$\therefore \angle PQR + \angle QRP + \angle RPQ = 180^o$

$= 105^o + 40^o + \angle RPQ = 180^o$

$= 145^o + \angle RPQ = 180^o$

$= \angle RPQ = 180^o - 145^0$

$= \angle RPQ = 35^o$

Hence, the measures of $\angle RPQ$ is 35^o.

Steps of construction:

1. Draw a line segment PQ = 5 cm.

2. At point P, draw a ray L to making an angle of 105^o i.e. $\angle LPQ = 105^o$.

3. At point Q, draw a ray M to making an angle of 40^o i.e. $\angle MQP = 40^o$.

4. Now the two rays PL and QM intersect at the point R.
Then, ΔPQR is the required triangle.

3. Examine whether you can construct ΔDEF such that EF = 7.2 cm, m∠E = 110° and

m∠F = 80°. Justify your answer.

Solution:-
From the question it is given that,
EF = 7.2 cm

$\angle E = 110^o$

$\angle F = 80^o$

Now we have to check whether it is possible to construct ΔDEF from the given values.
We know that the sum of the angles of a triangle is 180^o.
Then,

$\angle D + \angle E + \angle F = 180^o$

$\angle D + 110^o + 80^o = 180^o$

$\angle D + 190^o = 180^o$

$\angle D = 180^o – 190^0$

$\angle D = -10^o$

We may observe that the sum of two angles is 190^o is greater than 180^o. So, it is not possible to construct a triangle.