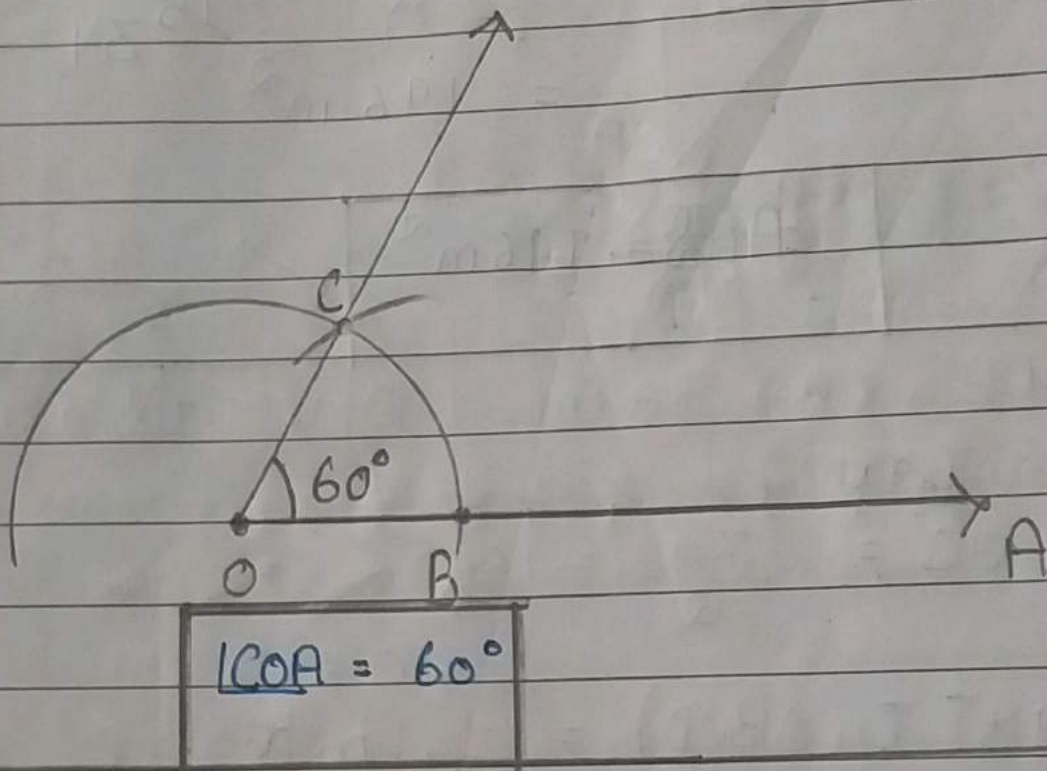


CHAPTER-II  
Construction

①

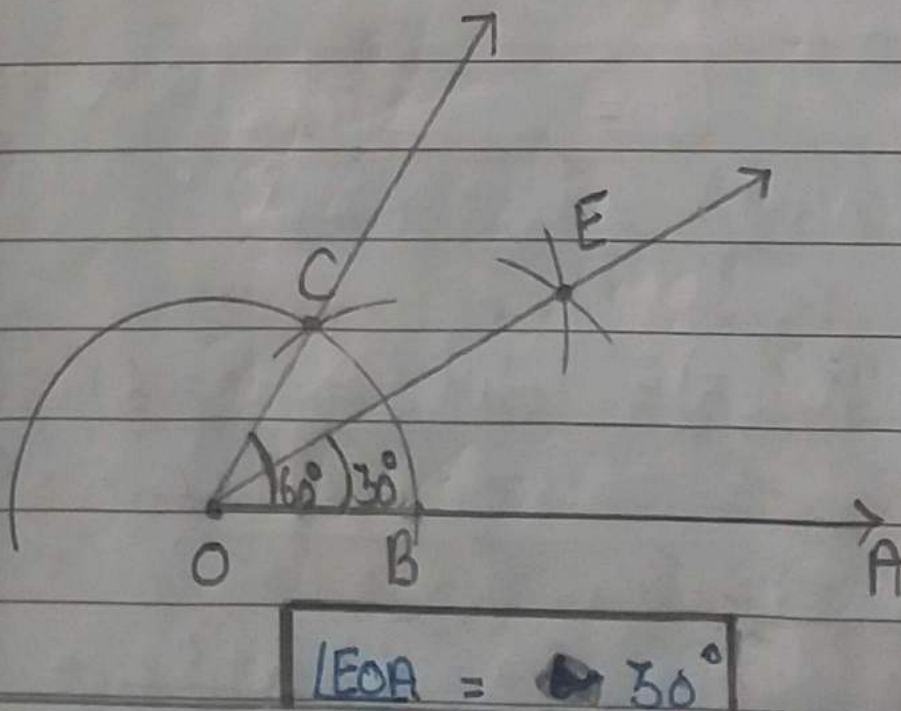
Construct an angle of  $60^\circ$ .

Soln:



Construct an angle of  $30^\circ$ .

Soln:

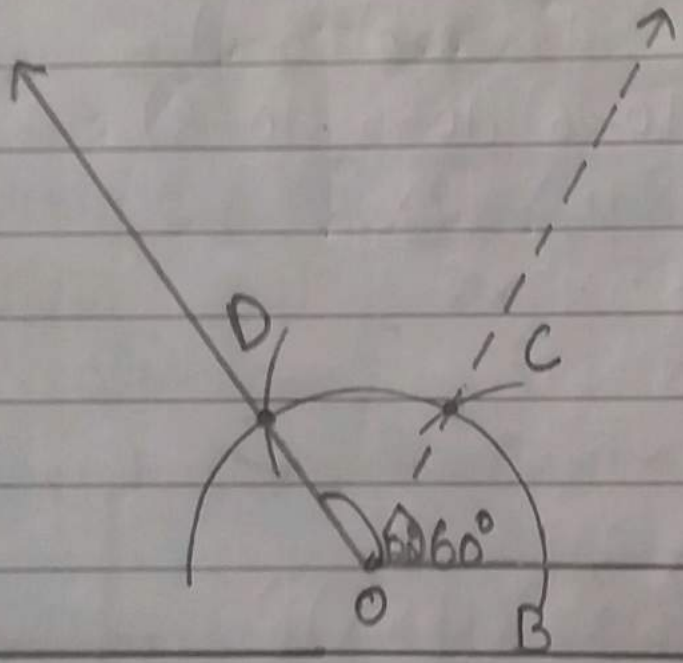


$\angle COH = 60^\circ$

Construct an angle of  $120^\circ$ .

Soln:

2

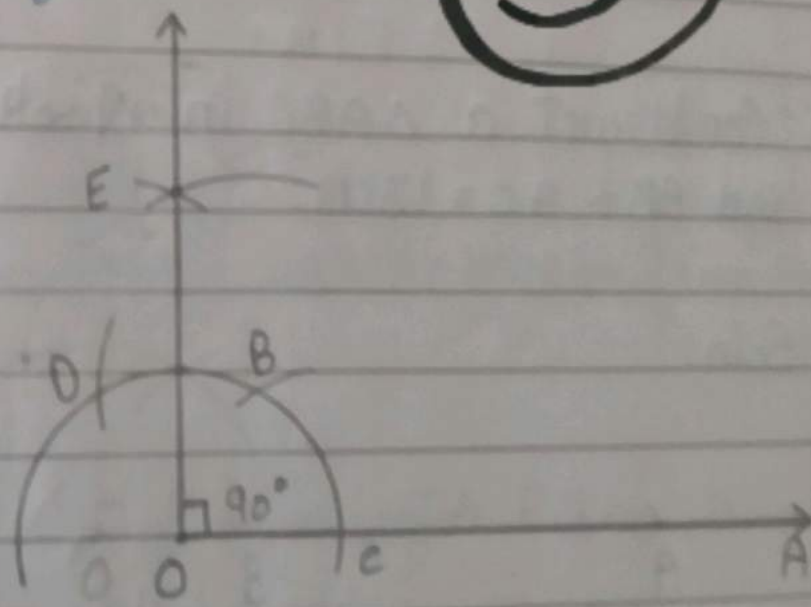


$\angle DOA = 120^\circ$

3

4. Construct an angle of  $90^\circ$ .

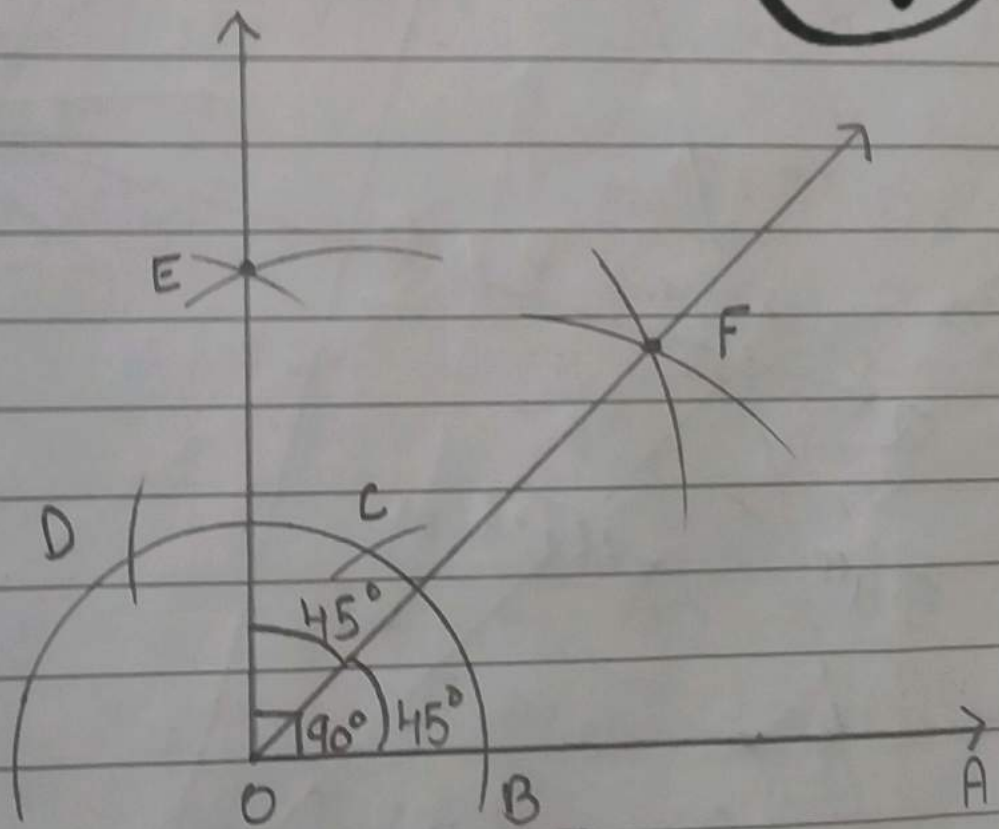
Soln:



$\angle EOA = 90^\circ$

5. Construct an angle of  $45^\circ$   
Soln:

4



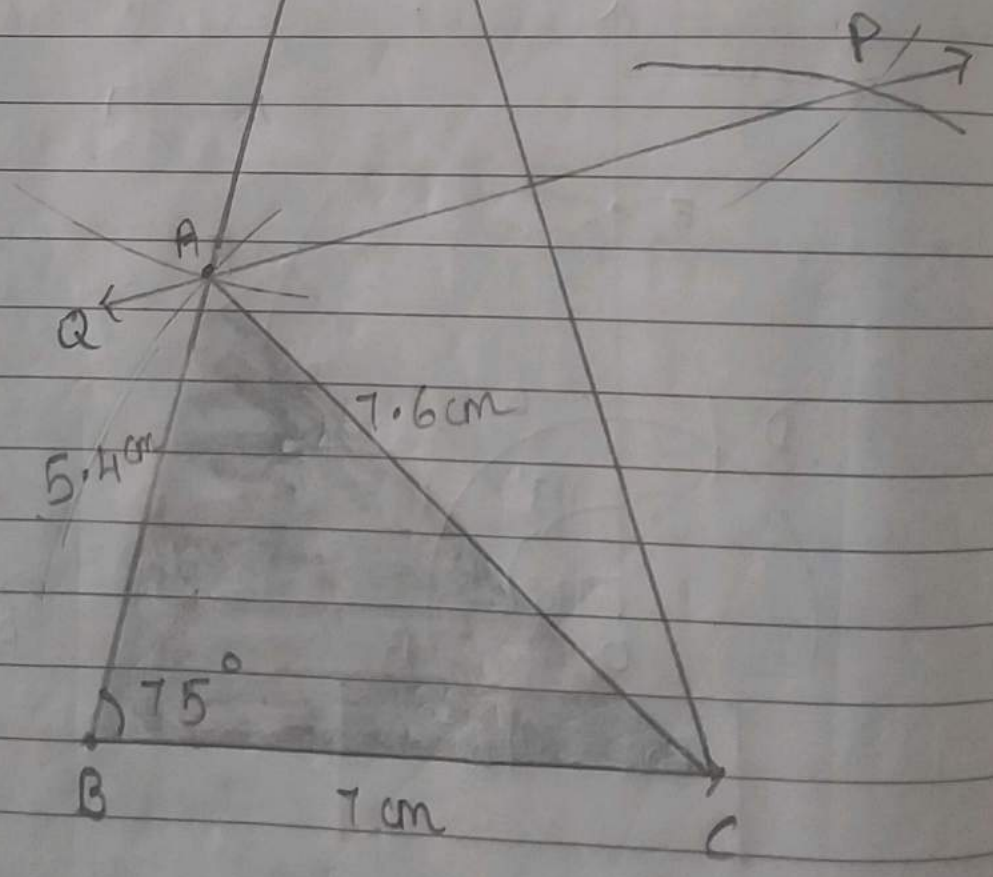
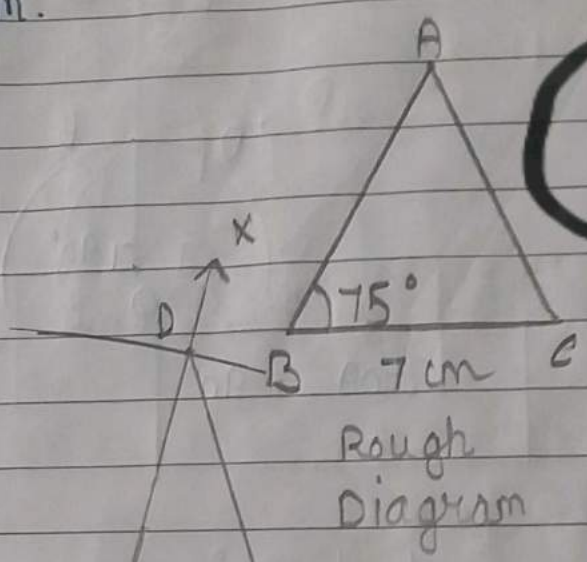
$\angle FOA = 45^\circ$

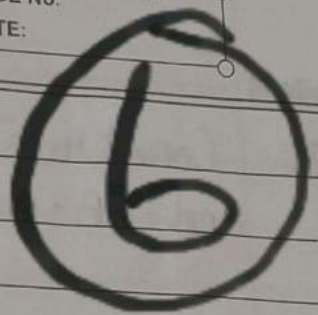
Ex: 11.2

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

Soln:

5





## Steps of Construction:

Step 1: Draw  $\overline{BC} = 7\text{cm}$ .

Step 2: At B make an angle of  $75^\circ$ .

Step 3: Cut a line segment  $BD = AB + AC = 13\text{cm}$  from the ray  $Bx$ .

Step 4: Join  $CD$ .

Step 5: Draw a perpendicular bisector  $PQ$  of  $CD$ .

Step 6: Let it intersect  $Bx$  at  $A$ .

Step 7: Join  $AC$ .

Thus,  $ABC$  is the required triangle.

## Verification:

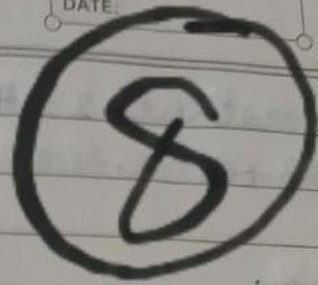
$$AB = 5.4\text{cm}$$

$$AC = 7.6\text{cm}$$

$$AB + AC = 13\text{cm}$$

Hence Verified.





### Steps of Construction:

Step 1: Draw  $\overline{BC} = 5\text{ cm}$

Step 2: At B make an angle of  $60^\circ$

Step 3: Cut a line segment  $BD = AB + AC = 7.5\text{ cm}$  from the ray  $Bx$ .

Step 4: Join CD.

Step 5: Draw a perpendicular bisector PQ of CD.

Step 6: Let it intersect  $Bx$  at A.

Step 7: Join AC.

Thus,  $\triangle ABC$  is the required triangle

### Verification:

$$AB = 3\text{ cm}$$

$$AC = 4.5\text{ cm}$$

$$AB + AC = 7.5\text{ cm}$$

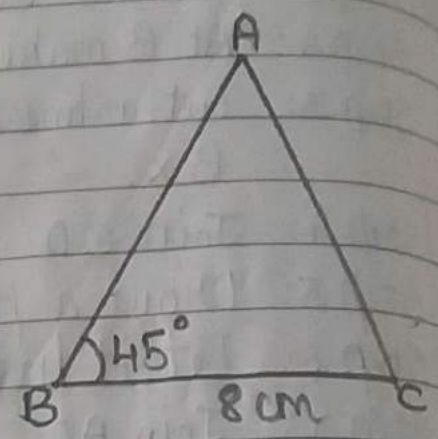
Hence Verified



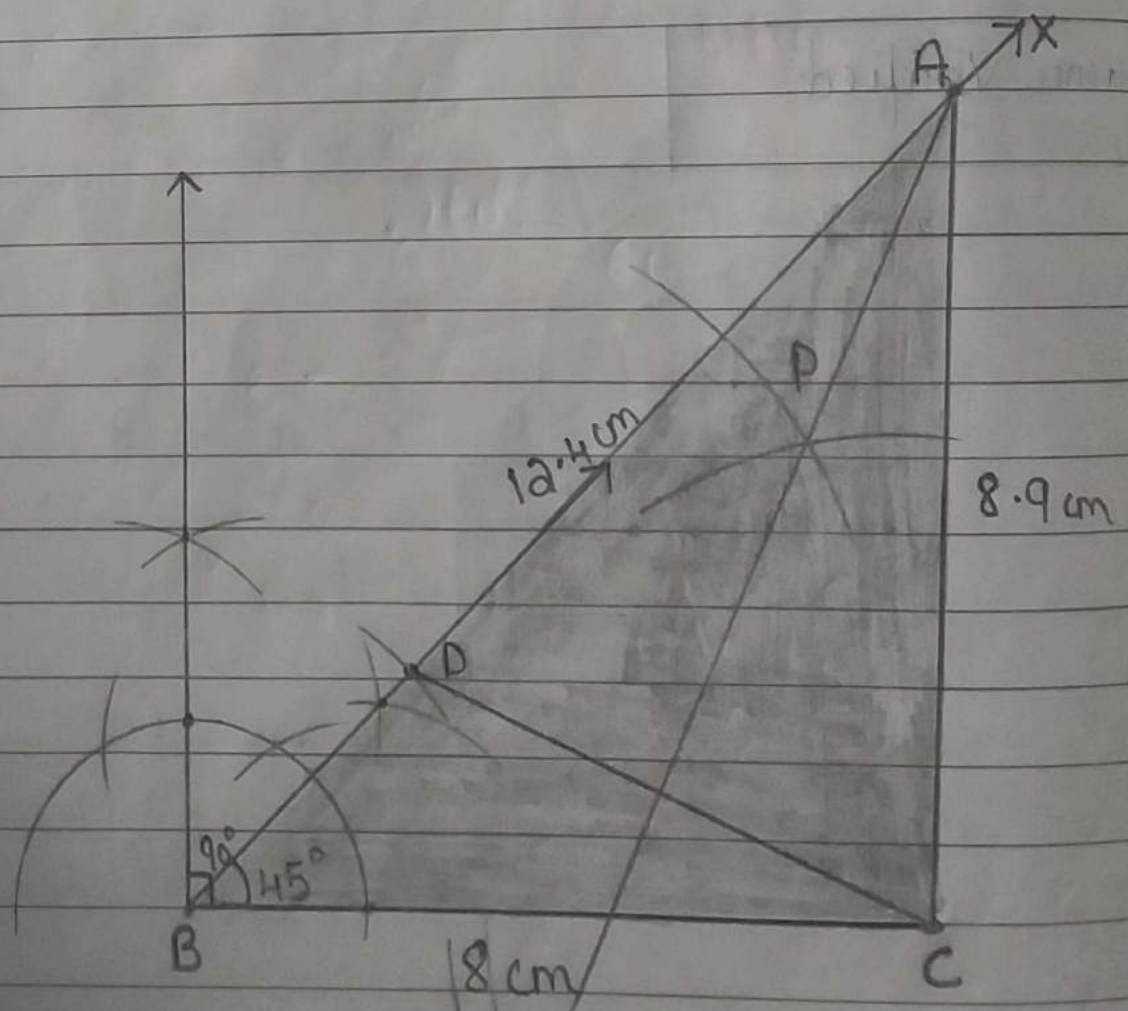
Construct a  $\triangle ABC$  in which  $BC = 8\text{ cm}$ ,  $\angle B = 45^\circ$  and  $AB - AC = 3.5\text{ cm}$

Soln:

9



1. Rough Diagram



10

### Steps of Construction:

Step 1: Draw  $\overline{BC} = 8\text{ cm}$

Step 2: At B make an angle of  $45^\circ$

Step 3: Cut a line segment  $BD = AB - AC = 3.5\text{ cm}$  from the ray BX

Step 4: Join CD.

Step 5: Draw the perpendicular bisector PQ of DC

Step 6: Let it intersect BX at A.

Step 7: Join AC.

Thus, ABC is the required triangle.

### Verification:

$$AB = 12.4\text{ cm}$$

$$AC = 8.9\text{ cm}$$

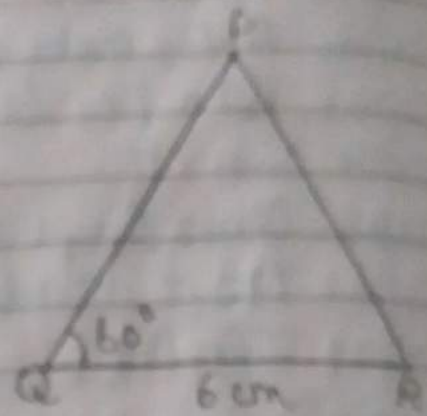
$$AB - AC = 3.5\text{ cm}$$

Hence Verified

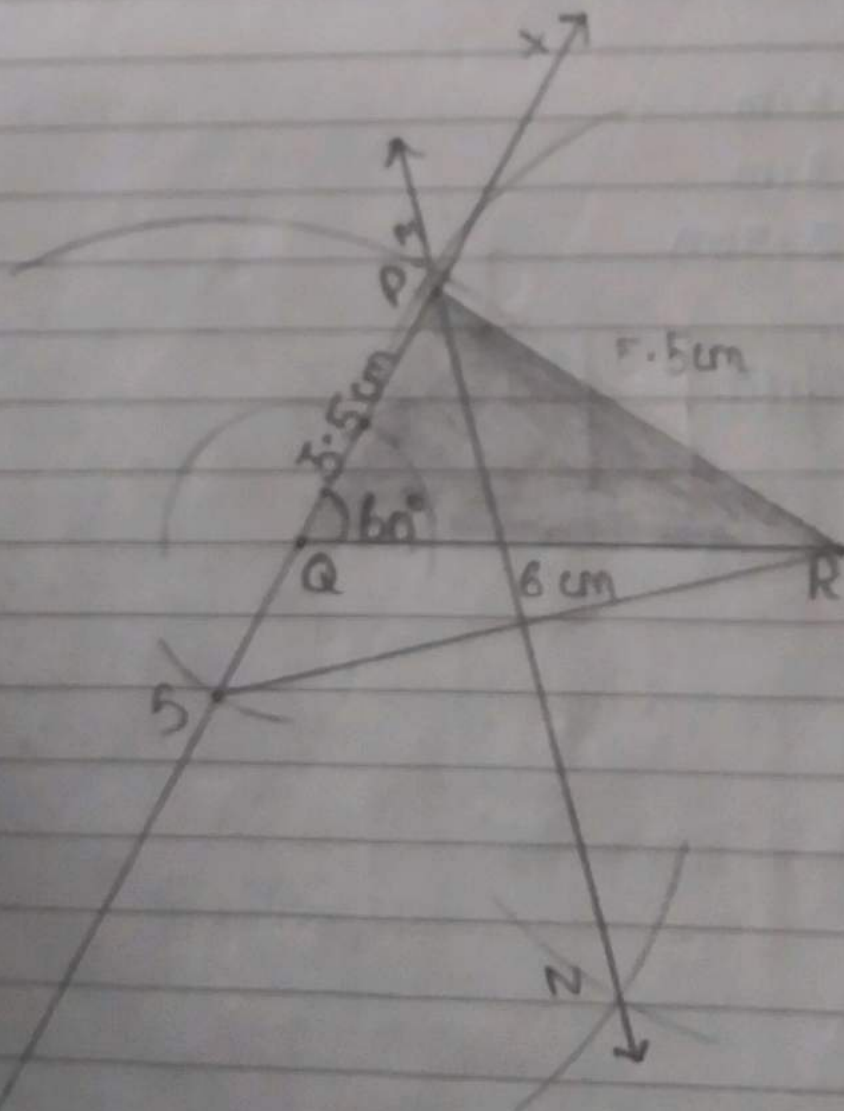
3. Construct a  $\triangle PQR$  in which  $QR = 6\text{ cm}$ ,  $\angle Q = 60^\circ$ ,  $PR = 5\text{ cm}$ .

Soln:

11



Rough Diagram



12

### Steps of Construction:

- Step 1: Draw  $\overline{QR} = 6\text{cm}$
- Step 2: At Q make an angle of  $60^\circ$ .
- Step 3: Cut a line segment  $QS = PR - PQ = 2\text{cm}$  from the ray Qx extended on opposite side of the line segment QR.
- Step 4: Join SR.
- Step 5: Draw the perpendicular bisector MN of SR.
- Step 6: Let it intersect Qx at 'P'.
- Step 7: Join PR.

Thus,  $\Delta PQR$  is the required triangle.

### Verification:

- $PR = 5.5\text{cm}$
- $PQ = 3.5\text{cm}$
- $PR - PQ = 2\text{cm}$

Hence Verified