

ACTIVITY - 12

TOPIC: PRACTICAL GEOMETRY

TITLE: CONSTRUCTION OF A TRIANGLE

1. **What we have to do?**

To construct a Triangle when the lengths of its three sides are known (SSS CRITERION)

2. **What is required?**

A drawing sheet and geometry box.

3. **How much time is required?**

30 – 40 minutes

4. **What do you need to know?**

Properties of triangles

5. **How will you proceed?**

- a. To construct a triangle PQR with sides, $PQ = 4\text{cm}$, $QR = 5\text{ cm}$ and $PR = 6\text{ cm}$,
First, we draw a rough sketch with given measure as shown in Fig.1.

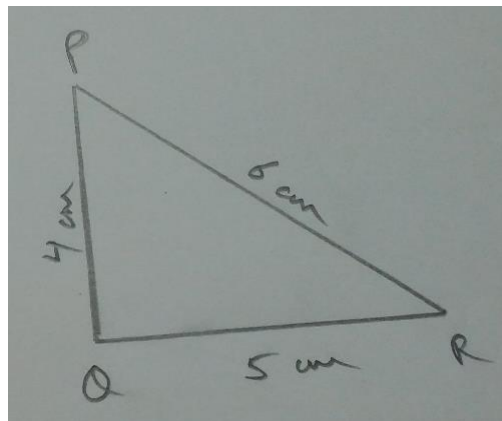


Fig.1

- b. Draw a line segment QR of length 5 cm as shown in Fig.2.

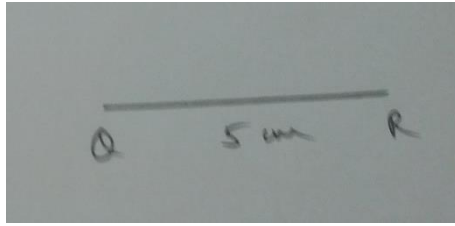


Fig.2

- c. With Q as centre, draw an arc of radius 4 cm to find point P, which is at a distance of 4 cm from Q.

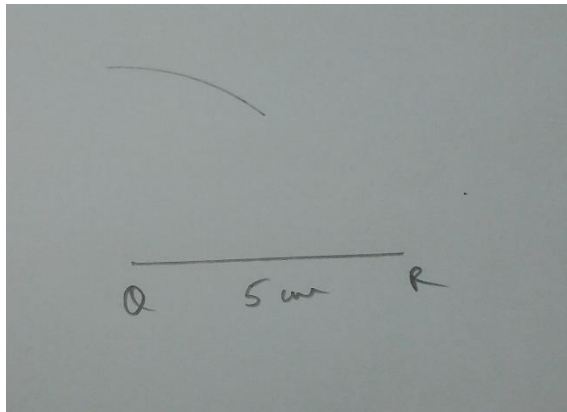


Fig.3

- d. With R as centre, draw an arc of radius 6 cm to find point P, which is at a distance of 6 cm from R.

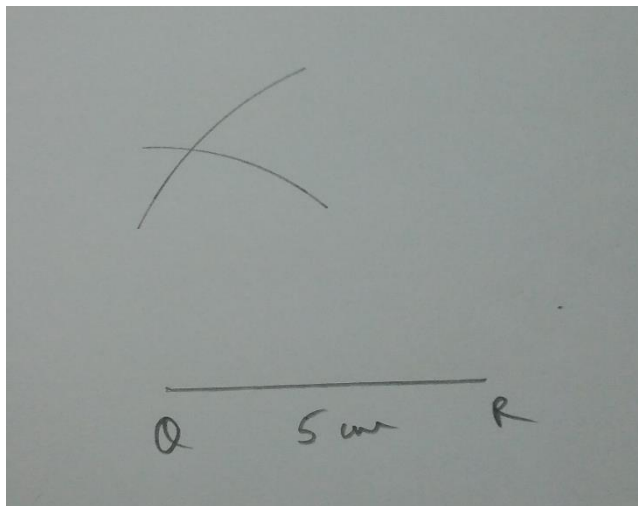


Fig.4

- e. Mark the point of intersection of arcs as P. Join PQ and PR. ΔPQR is now ready as shown in Fig.5 below.

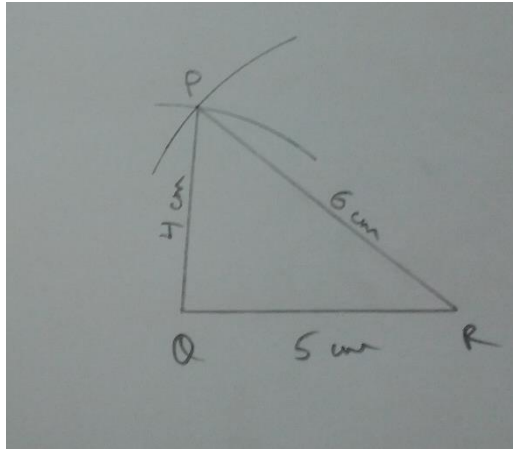


Fig.5

6. **What have you observed?**

- Is the resulting figure a scalene triangle?
- Is the resulting figure a right - angled triangle also? Why or why not?

7. **What have you learnt?**

8. **Extended Activity**

Construct an equilateral triangle having perimeter equal to your age.

Real life Applications:

The above concept is used in our day-to-day life incidents viz. computer designing, construction, making triangular shaped eatables, making domes, games, distance related problems etc....