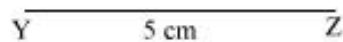**Q1.** Construct $\triangle XYZ$ in which XY = 4.5 cm, YZ = 5 cm and ZX = 6 cm.

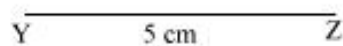**Ans:** The rough figure of this triangle is as follows.
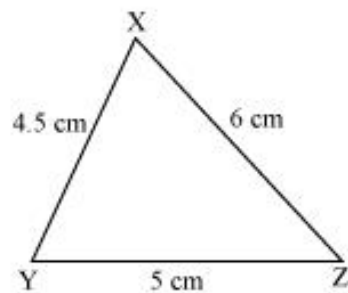
The required triangle is constructed as follows.

(i) Draw a line segment YZ of length 5 cm.

(ii) Point X is at a distance of 4.5 cm from point Y. Therefore, taking point Y as centre, draw an arc of 4.5 cm radius.

(iii) Point X is at a distance of 6 cm from point Z. Therefore, taking point Z as centre, draw an arc of 6 cm radius. Mark the point of intersection of the arcs as X. Join XY and XZ.

(iii) Point X is at a distance of 6 cm from point Z. Therefore, taking point Z as centre, draw an arc of 6 cm radius. Mark the point of intersection of the arcs as X. Join XY and XZ.
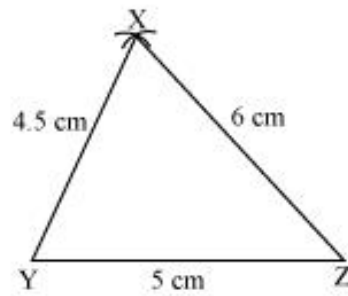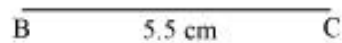

XYZ is the required triangle.

Q2. Construct an equilateral triangle of side 5.5 cm.

Ans: An equilateral triangle of side 5.5 cm has to be constructed. We know that all sides of an equilateral triangle are of equal length. Therefore, a triangle ABC has to be constructed with AB = BC = CA = 5.5 cm.

The steps of construction are as follows.

(i) Draw a line segment BC of length 5.5 cm.

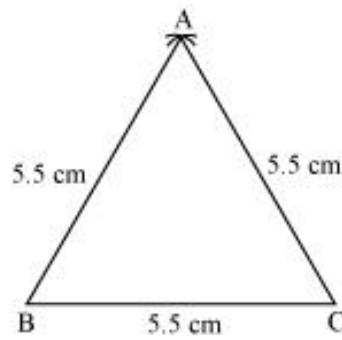(ii) Taking point B as centre, draw an arc of 5.5 cm radius.

B ———————— 5.5 cm ———————— C

(iii) Taking point C as centre, draw an arc of 5.5 cm radius to meet the previous arc at point A.

A

B ———————— 5.5 cm ———————— C

(iv) Join A to B and C.

A

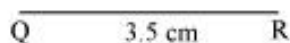5.5 cm   5.5 cm

B   5.5 cm   C

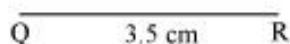ABC is the required equilateral triangle.

Q3. Draw $\triangle PQR$ with PQ = 4 cm, QR = 3.5 cm and PR = 4 cm. What type of triangle is this?

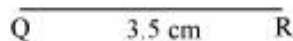**Ans:** The steps of construction are as follows.
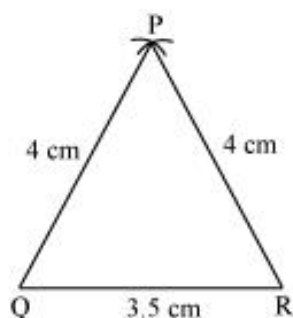
(i) Draw a line segment QR of length 3.5 cm.

$\overline{\underset{Q \qquad 3.5\ cm \qquad R}{\qquad\qquad\qquad}}$

(ii) Taking point Q as centre, draw an arc of 4 cm radius.

$\underset{Q \qquad 3.5\ cm \qquad R}{\rule{4cm}{0.4pt}}$

(iii) Taking point R as centre, draw an arc of 4 cm radius to intersect the previous arc at point P.

$\underset{Q \qquad 3.5\ cm \qquad R}{\rule{4cm}{0.4pt}}$

(iv) Join P to Q and R.

$\triangle PQR$ is the required triangle. As the two sides of this triangle are of the same length (PQ = PR), therefore, $\triangle PQR$ is an isosceles triangle.
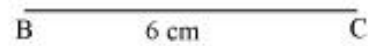
Q4. Construct $\triangle ABC$ such that AB = 2.5 cm, BC = 6 cm and AC = 6.5 cm. Measure ∠ B.
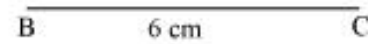
Ans: The steps of construction are as follows.

(i) Draw a line segment BC of length 6 cm.

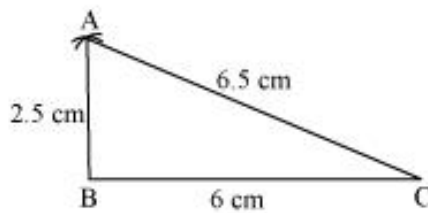B ———— 6 cm ———— C

(ii) Taking point C as centre, draw an arc of 6.5 cm radius.

B ———— 6 cm ———— C

(iii) Taking point B as centre, draw an arc of radius 2.5 cm to meet the previous arc at point A.

A

B ———— 6 cm ———— C

(iv) Join A to B and C.

ΔABC is the required triangle. ∠B can be measured with the help of protractor. It comes to 90°.

********** END *********