Exercise 10.2

Question 1:

Construct ΔXYZ in which XY = 4.5 cm, YZ = 5 cm and ZX = 6 cm.

Answer 1:

To construct: ΔXYZ, where XY = 4.5 cm, YZ = 5 cm and ZX = 6 cm.

Steps of construction:

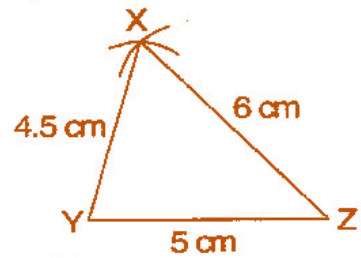
(a) Draw a line segment YZ = 5 cm.

(b) Taking Z as centre and radius 6 cm, draw an arc.

(c) Similarly, taking Y as centre and radius 4.5 cm, draw another arc which intersects first arc at point X.

(d) Join XY and XZ.

It is the required ΔXYZ.



Question 2:

Construct an equilateral triangle of side 5.5 cm.

Answer 2:

To construct: A ΔABC where AB = BC = CA = 5.5 cm

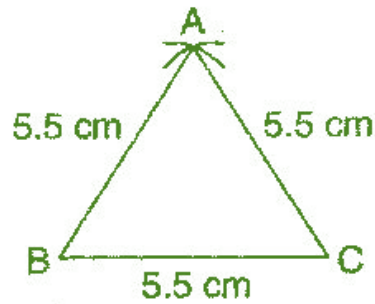
Steps of construction:

(a) Draw a line segment BC = 5.5 cm

(b) Taking points B and C as centers and radius 5.5 cm, draw arcs which intersect at point A.

(c) Join AB and AC.

It is the required ΔABC.



Question 3:

Draw ΔPQR with PQ = 4 cm, QR = 3.5 cm and PR = 4 cm. What type of triangle is this?

Answer 3:

To construction: ΔPQR, in which PQ = 4 cm, QR = 3.5 cm and PR = 4 cm.

Steps of construction:

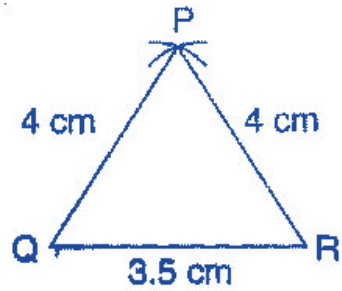
(a) Draw a line segment QR = 3.5 cm.

(b) Taking Q as centre and radius 4 cm, draw an arc.

(c) Similarly, taking R as centre and radius 4 cm, draw an another arc which intersects first arc at P.

(d) Join PQ and PR.

It is the required isosceles ΔPQR.



Question 4:

Construct ΔABC such that AB = 2.5 cm, BC = 6 cm and AC = 6.5 cm. Measure $\angle B$.

Answer 4:

To construct: ΔABC in which AB = 2.5 cm, BC = 6 cm and AC = 6.5 cm.

Steps of construction:

(a) Draw a line segment BC = 6 cm.

(b) Taking B as centre and radius 2.5 cm, draw an arc.

(c) Similarly, taking C as centre and radius 6.5 cm, draw another arc which intersects first arc at point A.

(d) Join AB and AC.

(e) Measure angle B with the help of protractor.

It is the required ΔABC where $\angle B = 80°$.