Exercise 10.3

Question 1:

Construct $\triangle DEF$ such that DE = 5 cm, DF = 3 cm and $m\angle EDF = 90°$.

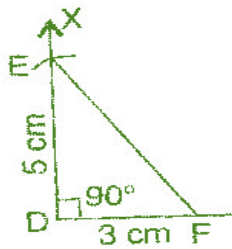### Answer 1:

To construct: $\triangle DEF$ where DE = 5 cm, DF = 3 cm and $m\angle EDF = 90°$.

Steps of construction:

(a) Draw a line segment DF = 3 cm.

(b) At point D, draw an angle of $90°$ with the help of compass i.e., $\angle XDF = 90°$.

(c) Taking D as centre, draw an arc of radius 5 cm, which cuts DX at the point E.

(d) Join EF.

It is the required right angled triangle DEF.

Question 2:

Construct an isosceles triangle in which the lengths of each of its equal sides is 6.5 cm and the angle between them is 110°.
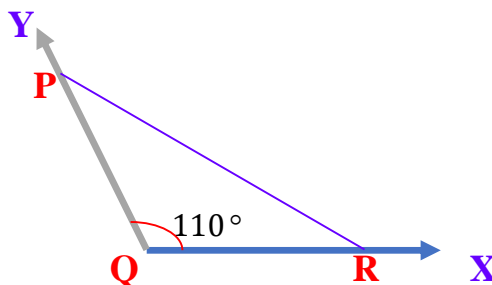
Answer 2:

To construct: An isosceles triangle PQR where PQ = RQ = 6.5 cm and $\angle Q = 110°$.

Steps of construction:

(a) Draw a line segment QR = 6.5 cm.

(b) At point Q, draw an angle of 110° with the help of protractor, i.e., $\angle YQR = 110°$.

(c) Taking Q as centre, draw an arc with radius 6.5 cm, which cuts QY at point P.

(d) Join PR

It is the required isosceles triangle PQR.

Question 3:
Construct $\triangle$ABC with BC = 7.5 cm, AC = 5 cm and $m\angle$C = 60°.
Answer 3:
To construct: $\triangle$ABC where BC = 7.5 cm, AC = 5 cm and $m\angle$C = 60°.
Steps of construction:
(a) Draw a line segment BC = 7.5 cm.
(b) At point C, draw an angle of 60° with the help of protractor, i.e., $\angle$XCB = 60°.
(c) Taking C as centre and radius 5 cm, draw an arc, which cuts XC at the point A.
(d) Join AB
It is the required triangle ABC.