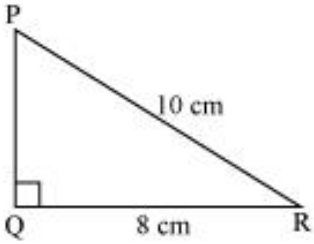
NCERT Solutions For Class 7 Maths Practical Geometry Exercise 10.5

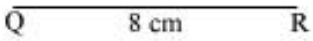
Q1. Construct the right angled ΔPQR, where m∠Q = 90°, QR = 8 cm and PR = 10 cm.

Ans: A rough sketch of ΔPQR is as follows.

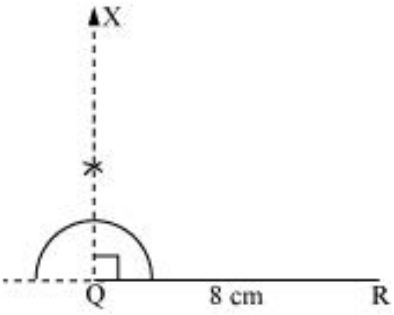


The steps of construction are as follows.

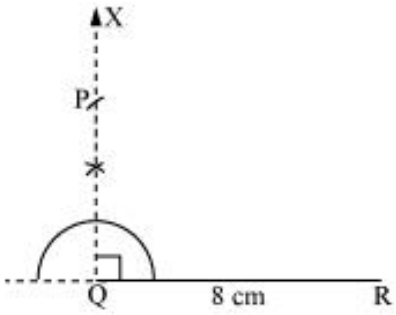
(i) Draw a line segment QR of length 8 cm.



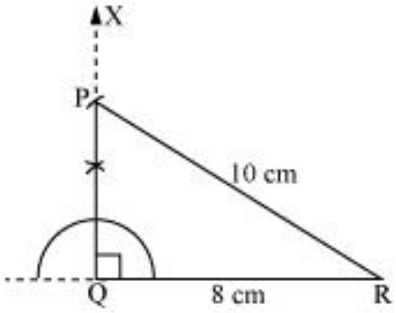
(ii) At point Q, draw a ray QX making 90° with QR.



(iii) Taking R as centre, draw an arc of 10 cm radius to intersect ray QX at point P.

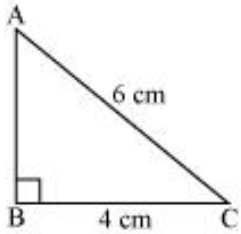


(iv) Join P to R. ΔPQR is the required right-angled triangle.



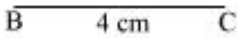
Q2. Construct a right-angled triangle whose hypotenuse is 6 cm long and one of the legs is 4 cm long.

Ans: A right-angled triangle ABC with hypotenuse 6 cm and one of the legs as 4 cm has to be constructed. A rough sketch of ΔABC is as follows.

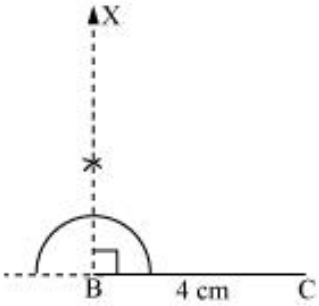


The steps of construction are as follows.

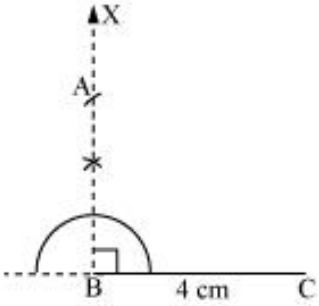
(i) Draw a line segment BC of length 4 cm.



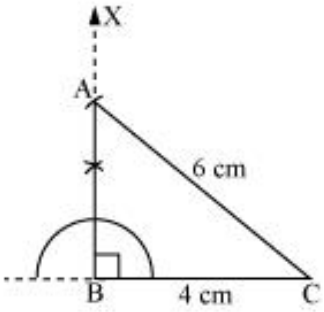
(ii) At point B, draw a ray BX making an angle of 90° with BC.



(iii) Taking C as centre, draw an arc of 6 cm radius to intersect ray BX at point A.

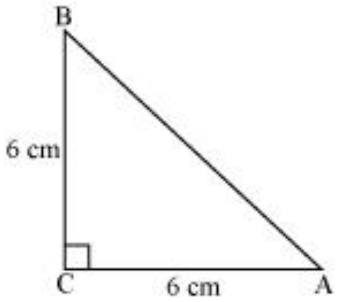


(iv) Join A to C to obtain the required ΔABC.



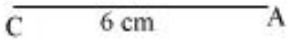
Q3. Construct an isosceles right-angled triangle ABC, where, m∠ ACB = 90° and AC = 6 cm.
Ans: In an isosceles triangle, the lengths of any two sides are equal.

Let in ΔABC, AC = BC = 6 cm. A rough sketch of this ΔABC is as follows.

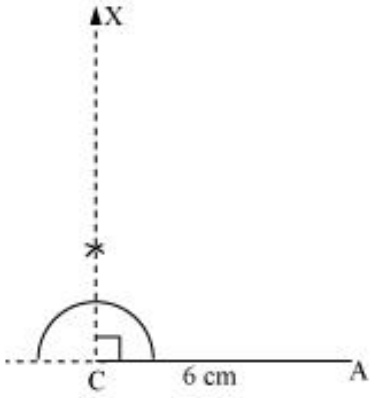


The steps of construction are as follows.

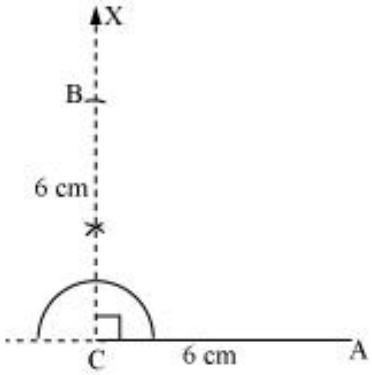
(i) Draw a line segment AC of length 6 cm.



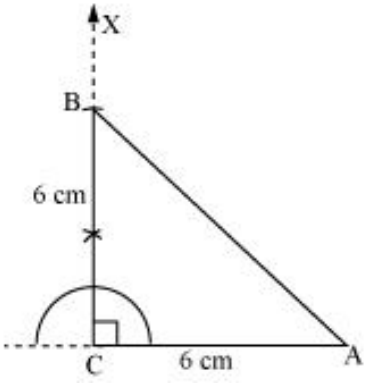
(ii) At point C, draw a ray CX making an angle of 90° with AC.



(iii) Taking point C as centre, draw an arc of 6 cm radius to intersect CX at point B.



(iv) Join A to B to obtain the required ΔABC.



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