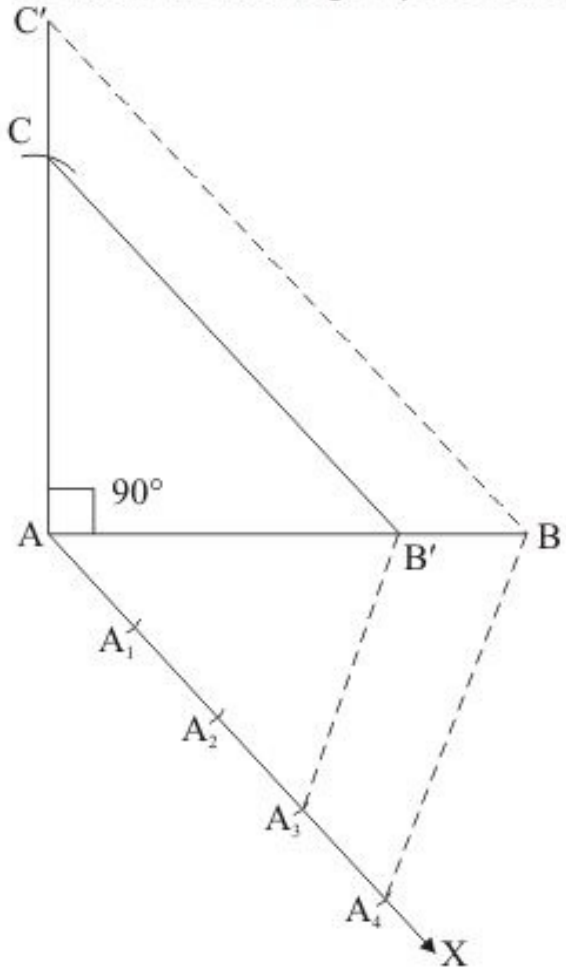
Constructions Ex 11.2 Q13

Answer :

Given that

Construct a right triangle of sides let $AB = 8\,\text{cm}, AC = 6\,\text{cm}, \text{and} \angle A = 90^0$ and then a triangle similar to it whose sides are $\left(\frac{3}{4}\right)^{\text{th}}$ of the corresponding sides of ΔABC.

We follow the following steps to construct the given



Step of construction

Step: I- First of all we draw a line segment let $AB = 8\,\text{cm}$.

Step: II- With *A* as centre and draw an angle $\angle A = 90^0$.

Step: III- With *A* as centre and radius $AC = 6\,\text{cm}$.

Step: IV-Join *BC* to obtain right ΔABC.

Step: V- Below *AB*, makes an acute angle $\angle BAX = 60^0$.

Step: VI- Along *AX*, mark off five points $A_1, A_2, A_3, \text{and } A_4$ such that $AA_1 = A_1A_2 = A_2A_3 = A_3A_4$

Step: VII- Join A_4B.

Step: VIII -Since we have to construct a triangle each of whose sides is $\left(\frac{3}{4}\right)^{\text{th}}$ of the corresponding sides of right ΔABC.

So, we draw a line A_3B' on *AX* from point A_3 which is $A_3B' \| A_4B,$ and meeting *AB* at B′.

Step: IX- From *B′* point draw $B'C' \| BC,$ and meeting *AC* at *C′*

Thus, $\Delta AB'C'$ is the required triangle, each of whose sides is $\left(\frac{3}{4}\right)^{\text{th}}$ of the corresponding sides of ΔABC.

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