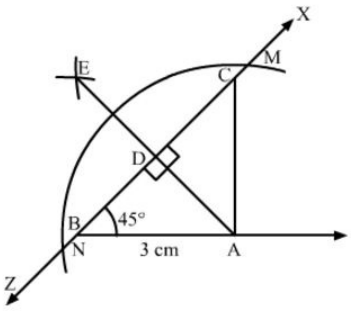
Constructions Ex 17.3 Q6

Answer :

Steps of construction:
Draw a line segment AB of length 3 cm.
Draw an angle of 45° and cut an arc at this angle at a radius of 4 cm at C.
Join AC to get the required triangle.
With A as centre, draw intersecting arcs at M and N.
With centre M and radius more that $\frac{1}{2}\,MN$, cut an arc on the opposite side of A.
With N as centre and radius the same as in the previous step, cut an arc intersecting the previous arc at E.
Join AE, it meets BC at D, then AE is the required perpendicular.



Constructions Ex 17.3 Q7

Answer :

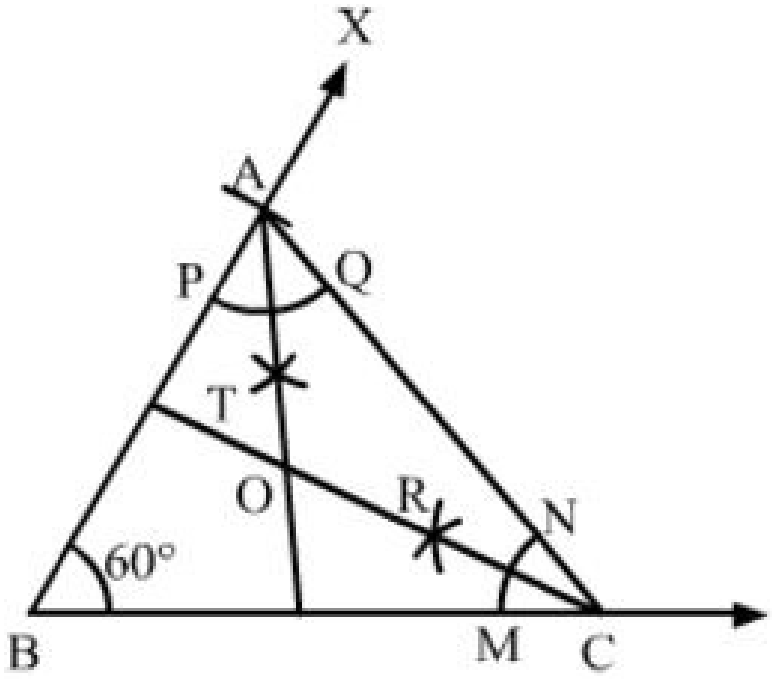
Steps of construction:
Draw a line segment BC = 4 cm.
Draw $\angle CBX = 60^\circ$.
Draw an arc on BX at a radius of 3 cm cutting BX at A.
Join AC to get the required triangle.

Angle bisector for angle A:
1. With A as centre, cut arcs of the same radius cutting AB and AC at P an Q, respectively.
2. From P and Q cut arcs of same radius intersecting at R.
3. Join AR to get the angle bisector of angle A.

Angle bisector for angle C:
1. With A as centre, cut arcs of the same radius cutting CB and CA at M an N, respectively.
2. From M and N, cut arcs of the same radius intersecting at T.
3. Join CT to get the angle bisector of angle C.

Mark the point of intersection of CT and AR as O.

Angle $\angle COA = 120^o$



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