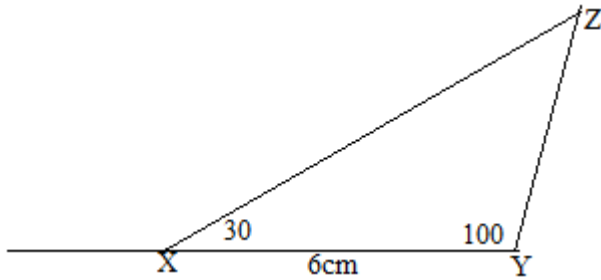


HANDOUT-4/4

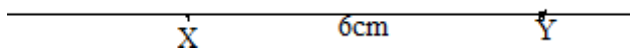
III) CONSTRUCTION OF A TRIANGLE WHEN THE MEASURE OF TWO OF ITS ANGLES AND THE LENGTH OF THE SIDE INCLUDED BETWEEN THEM IS GIVEN(ASA CRITERION)

Example: Construct $\triangle XYZ$, if it is given that $XY=6\text{cm}$, $m\angle ZXY=30^\circ$ and $m\angle XYZ=100^\circ$

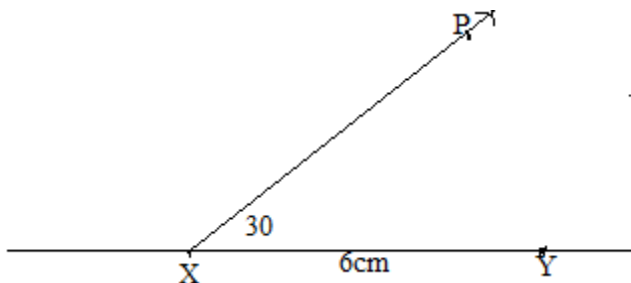
Step:1) Draw a rough sketch with the given measurements (to decide how to proceed to the construction of the required triangle)



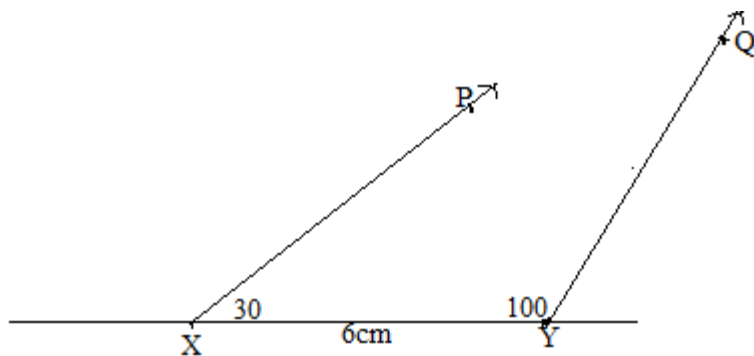
Step: 2) Draw XY of length 6cm.



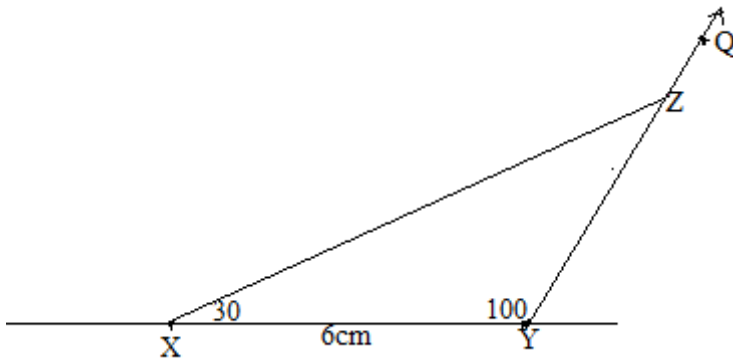
Step: 3) At 'X', draw a ray XP making an angle of 30° with XY. (Z must be somewhere on the ray XP)



Step: 4) At 'Y', draw a ray YQ making an angle of 100° with YX. (Z must be on the ray YQ also)



Step: 5) Z has to lie on both the rays XP and YQ. So, the point of intersection of the two rays is 'Z'

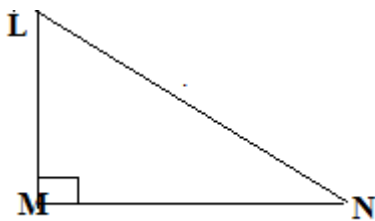


The required $\triangle XYZ$ is formed.

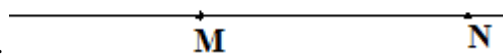
IV) CONSTRUCTING A RIGHT ANGLED TRIANGLE WHEN THE LENGTH OF ONE LEG AND ITS HYPOTENUSE ARE GIVEN (RHS CRITERION)

Example: Construct $\triangle LMN$, right angled at M, given that $LN=5\text{cm}$ and $MN=3\text{cm}$

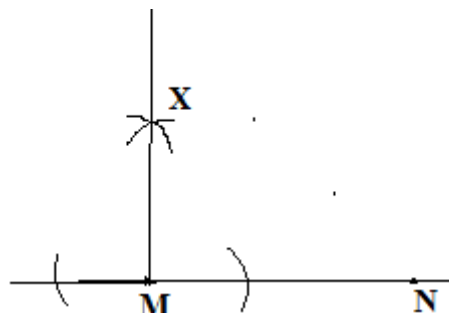
Step: 1) Draw a rough sketch with the given measurements (to decide how to proceed to the construction of the required triangle)



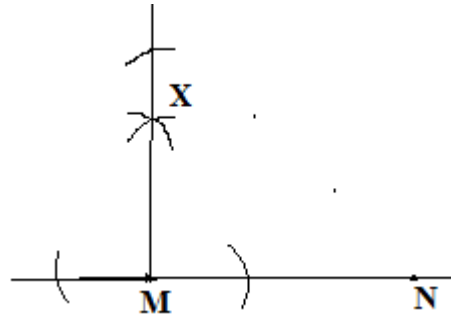
Step:2) Draw MN of length 3cm.



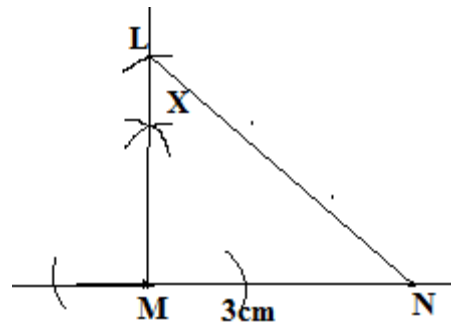
Step: 3) At 'M', draw $MX \perp MN$. (L should be somewhere on this perpendicular)



Step: 4) With 'N' as centre, draw an arc of radius 5cm. (L must be on this arc, since it is at a distance of 5cm from N)



Step: 5) L has to be on the perpendicular line MX as well as on the arc drawn with centre N. Therefore, L is the meeting point of these two.



The required $\triangle LMN$ is formed.

PRESENTED BY G.L. KUMAR, TGT(SS), AECS-MNGR