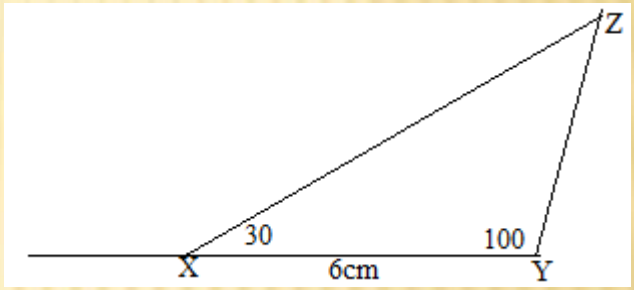
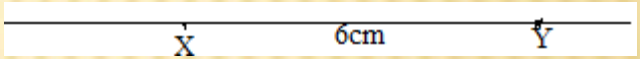
III) CONSTRUCTION OF A TRIANGLE WHEN THE MEASURE OF TWO OF ITS ANGLES AND THE LENGTH OF THE SIDE INCLUDED BETWEEN THEM IS GIVEN(ASA CRITERION)

Example: Construct a triangle XYZ, if it is given that XY=6cm m ZXY=30 ^{0}and m XYZ=100^0

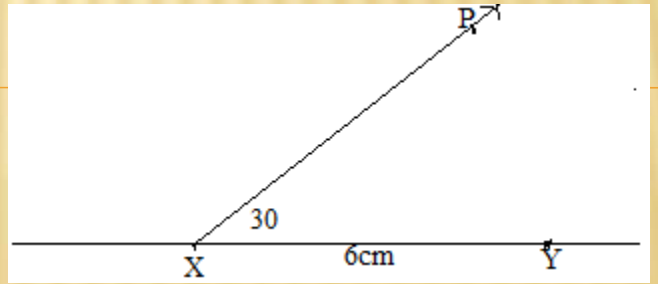
Step:1) Draw a rough sketch with the given measurements (to decide how to proceed to the construction of the required triangle)



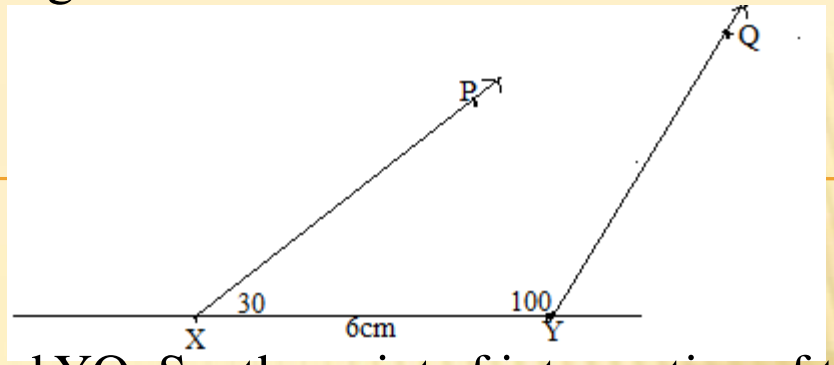
Step: 2) Draw XY of length 6cm.



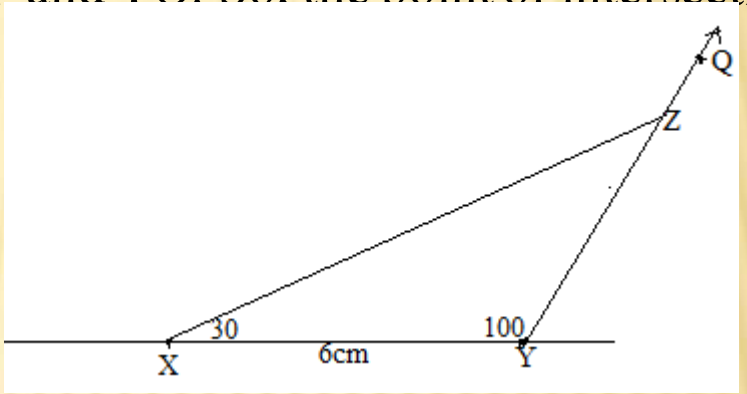
Step: 3) At 'X', draw a ray XP making an angle of 30^0 with XY. (Z must be somewhere on the ray XP)



Step: 4) At'Y', draw a ray YQ making an angle of 100^0 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'

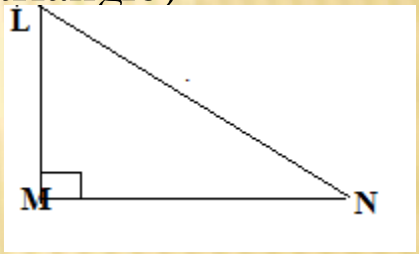


The required ΔXYZ is formed.

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

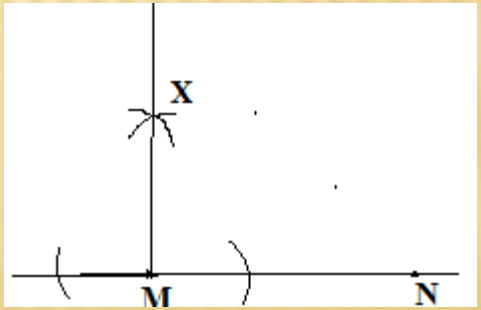
Example: Construct △LMN, right angled at M, given that LN=5cm and MN=3cm

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

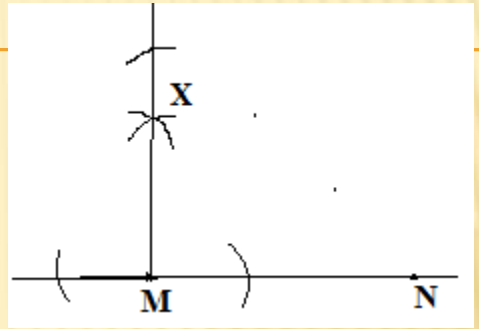


Step:2) Draw MN of length 3cm

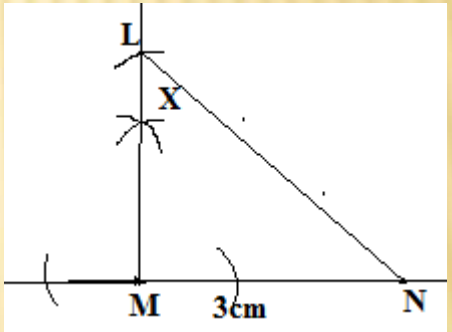
Step: 3) At 'M', draw MX ⊥ MN. (L should be somewhere on this perpendicular)



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 ΔLMN required is formed.

END OF MODULE-4

THANK YOU

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