

# 3.3.3.6

EE24BTECH11059 - Yellanki Siddhanth

## Question:

Construct a triangle  $ABC$  with side  $BC = 6\text{cm}$ ,  $B = \angle 45^\circ$ ,  $A = \angle 105^\circ$

## Solution:

We know that  $\angle A + \angle B + \angle C = 180^\circ$ .

$$\angle C = 180 - \angle A - \angle B = 30^\circ$$

(0.1)

Steps to construct the triangle are:

- 1) Draw a line segment  $BC$  of length  $6\text{cm}$  using a ruler.
  - 2) At point  $B$  construct  $\angle XBC$  of measure  $45^\circ$ .
  - 3) At point  $C$  construct  $\angle YCB$  of measure  $30^\circ$
  - 4) Extend  $BX$  and  $CY$  and label their point of intersection as  $A$ .
- $\triangle ABC$  is the required triangle.

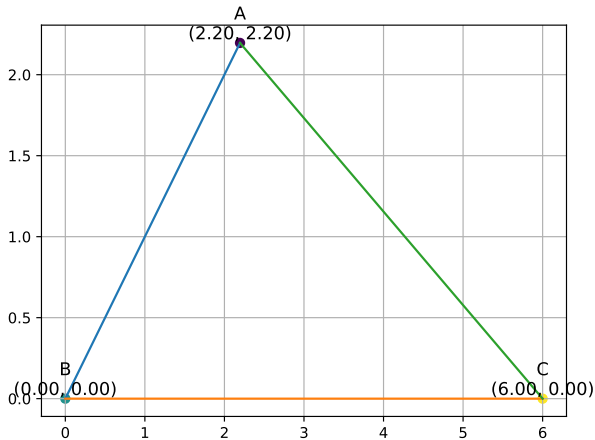


Fig. 4.1: Triangle  $ABC$  where  $BC = 6\text{cm}$ ,  $\angle B = 45^\circ$  and  $\angle A = 105^\circ$