Constructing a Unique or Special Triangle part 3

GIVEN TWO SIDES AND THE INCLUDED ANGLE

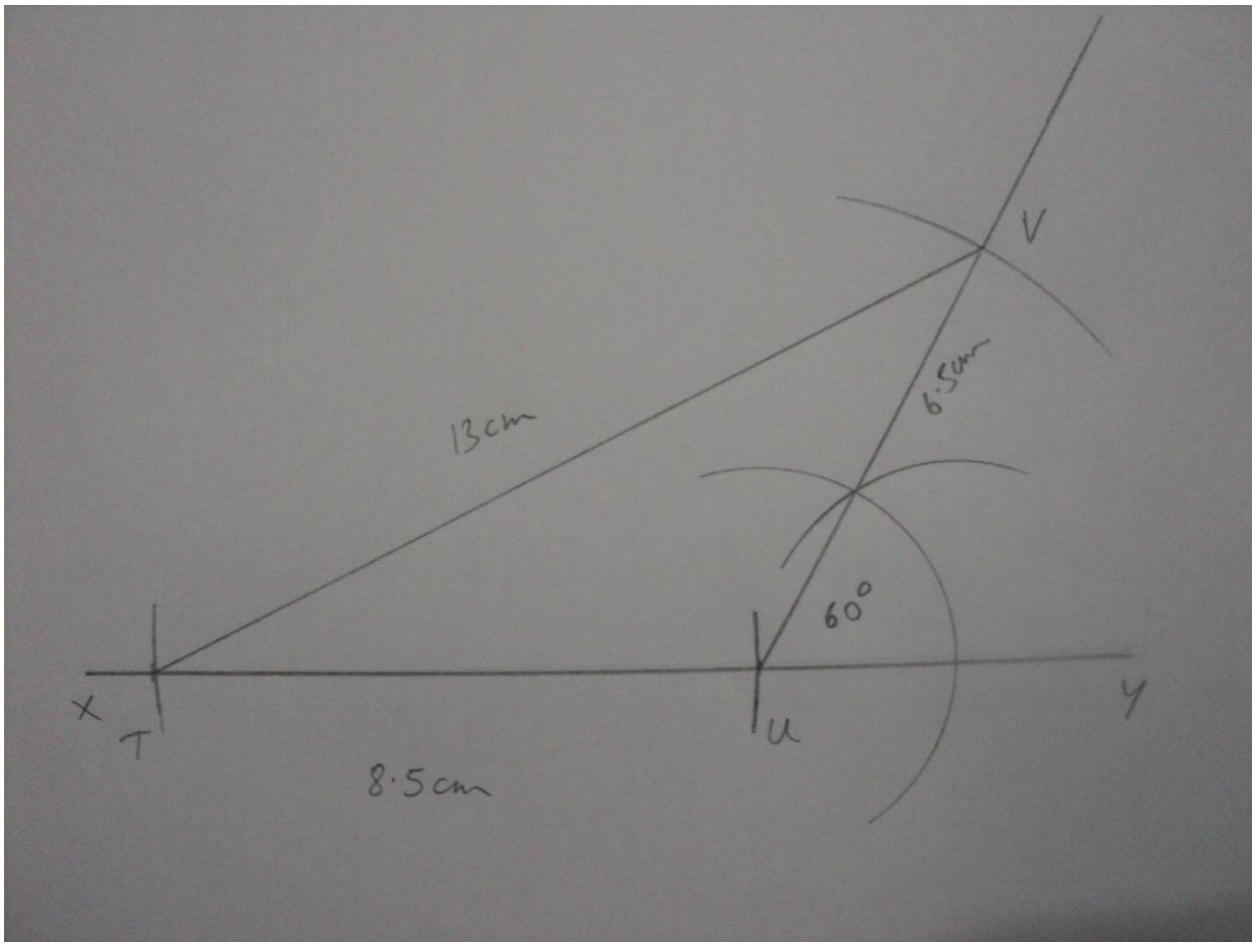
(a) Using rulers and compasses only, construct the triangle TUV, with TU=8.5 cm, UV =6.5 cm and angle TUV = 120 ˚.

Show all construction lines clearly.

(b) Measure and state the length of TV.

CONSTRUCTION:

First draw the line XY and then construct or build the line segment TU=8.5 cm. Using U as centre, construct or build a 60˚ angle on the right-hand-side. Draw a straight line passing through the point U and the 60˚ angle. At this moment set your compasses to a separation of 6.5 cm and construct or build an arc or curve to intersect the line at V. Then draw a straight line joining the points T and V. We have at last constructed or build the triangle TUV with TU =8.5 cm, UV=6.5 cm and angle TUV=120˚



By measurement the length of TV= 13cm