Constructing a Unique or Special Triangle part 5

GIVEN A RIGHT ANGLE, HYPOTENUSE AND A SIDE

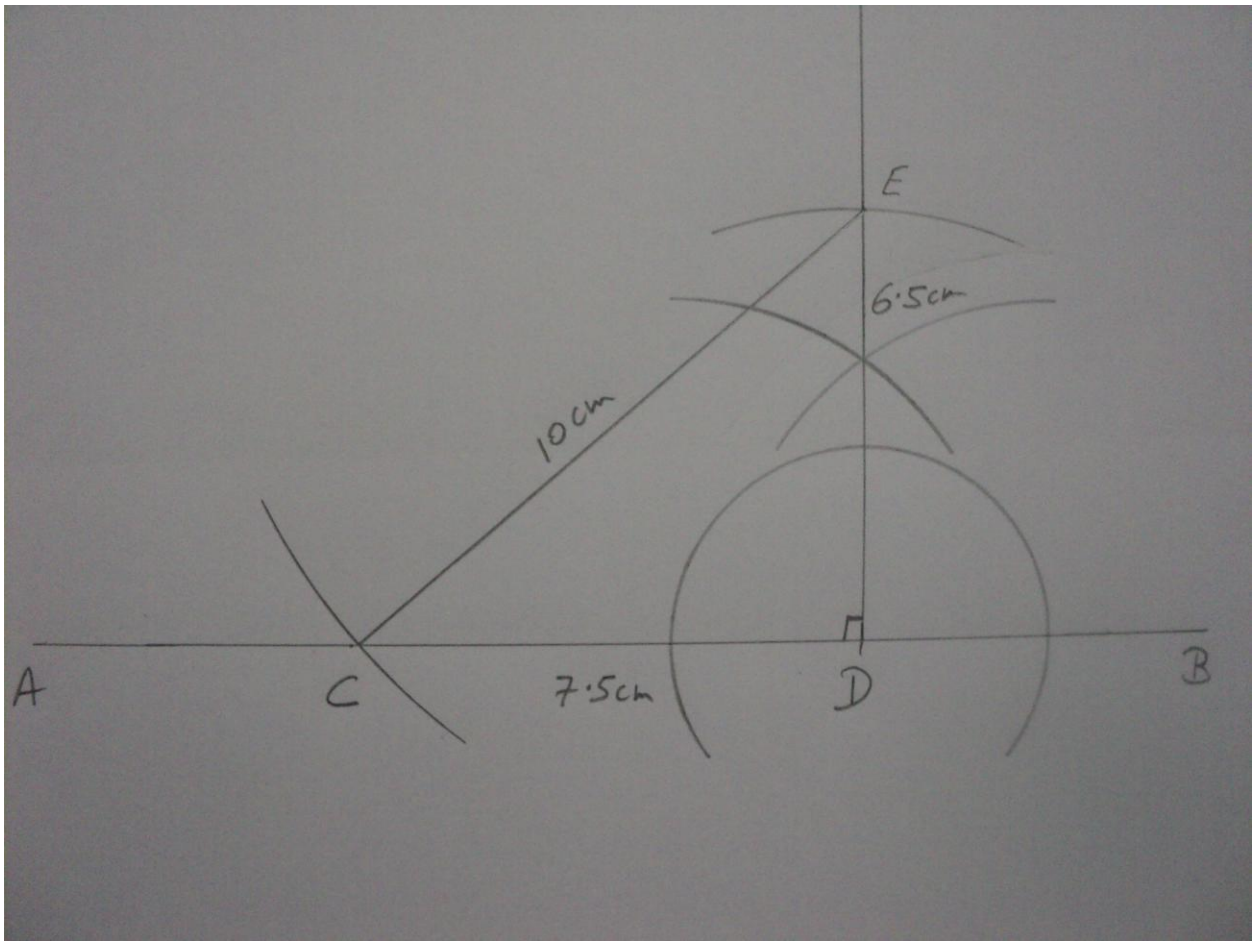
(a) Using rulers and compasses only, construct the triangle CDE, with angle CDE=90˚, CE=10 cm and DE=6.5 cm

Show all construction lines clearly

(b) Measure and state the length of CD

CONSTRUCTION

First draw a straight line AB, and then mark the point D. At this moment construct or build the 90˚ angle using D as centre. Draw a straight line passing through the point D and the 90˚ angle. Set your compasses to a separation of 6.5 cm and with the centre D; construct an arc or curve to cut the last line at E. At this moment set your compasses to a separation of 10 cm and with centre E, construct or build an arc or curve to intersect the line AD at C. Draw a straight line joining the points C and E. We have at last constructed or build the triangle CDE, with angle CDE=90˚, CE =10 cm and DE=6.5 cm.



By measurement the length of CD is 7.5cm