Constructing a Unique or Special Triangle part 2

GIVEN THREE SIDES

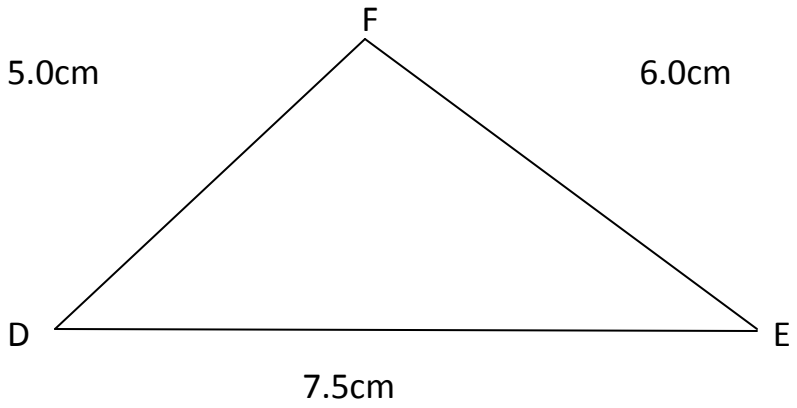
(a) Using rulers and compasses only, construct the triangle DEF, with DE= 7.5cm, DF=5.0cm and EF=6.0cm. Show all construction lines clearly

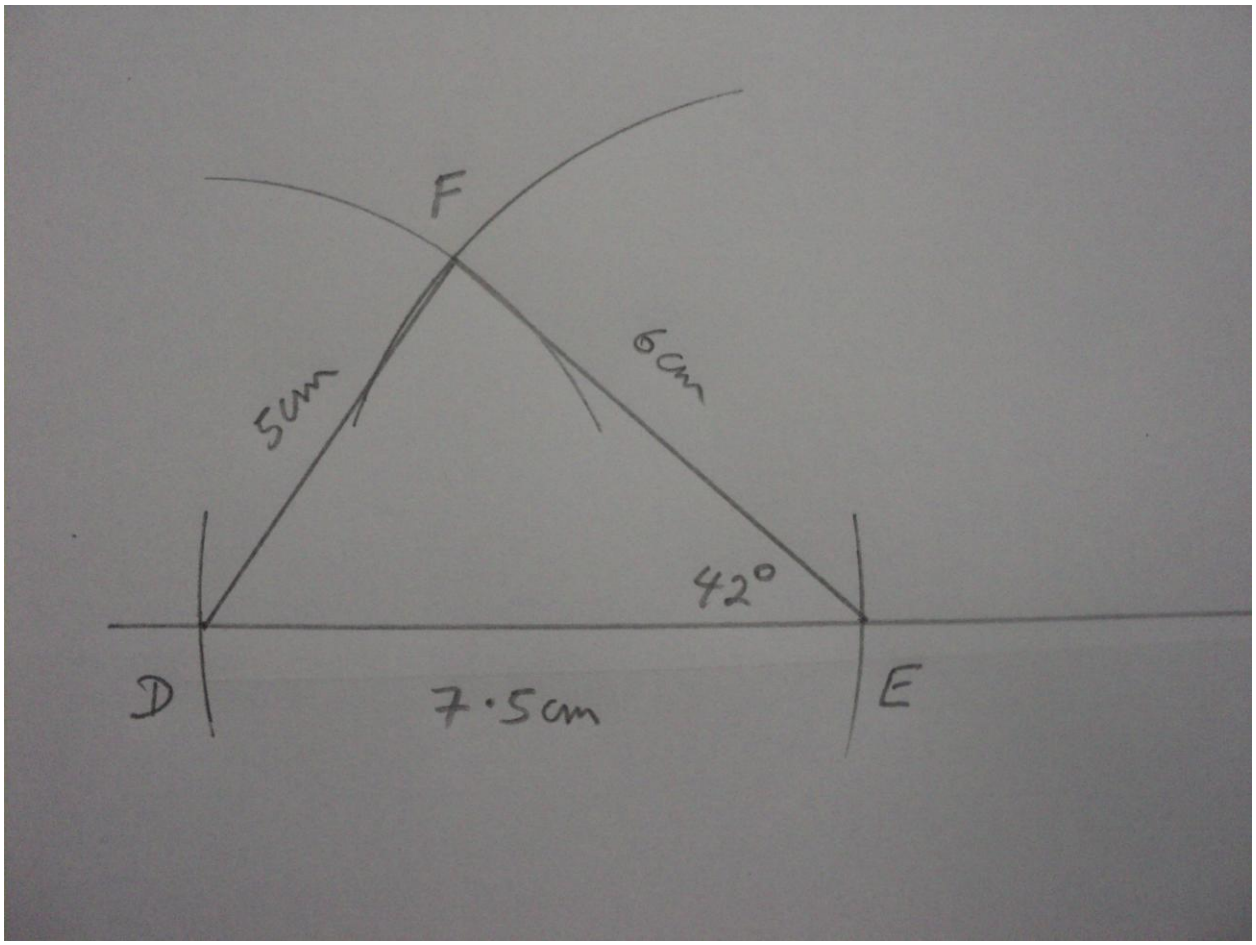
(b) Measure and state the size of angle DEF

CONSTRUCTION

First construct or build the line segment DE=7.5cm in length. After that, set your compasses to a separation of 5.0 cm using ruler. With centre D, construct or build an arc above the line segment DE. Now set your compasses to a separation or division of 6.0cm. Using E as centre, construct or build a second arc to intersect or crisscross the first arc at F. Draw straight lines from D to F and from E to F. We have at last constructed the triangle DEF, with DE = 7.5, DF=5.0 and EF=6.0cm.

Below can be seen the sketch of the triangle DEF to be built





By measurement the size of angle DEF is 42°