



# Proposition I

To construct an *equilateral triangle* on a given *finite straight line*.

Let *AB* be the given *finite straight line*. It is required to construct an *equilateral triangle* on the *straight line* *AB*.

Describe the circle *BCD* with center *A* and radius *AB*. Again describe the circle *ACE* with center *B* and radius *BA*. Join the *straight lines* *CA* and *CB* from the point *C* at which the circles cut one another to the points *A* and *B*.

Now, since the point *A* is the center of the circle *CDB*, therefore *AC* equals *AB*. Again, since the point *B* is the center of the circle *CAE*, therefore *BC* equals *BA*. But *AC* was proved equal to *AB*, therefore each of the straight lines *AC* and *BC* equals *AB*. And things which equal the same thing also equal one another, therefore *AC* also equals *BC*. Therefore the three straight lines *AC*, *AB*, and *BC* equal one another. Therefore the *triangle* *ABC* is equilateral, and it has been constructed on the given finite *straight line* *AB*.