4. Again, because the point G is the centre of the circle HLK, GH is equal to GK. (*Definition* 15.)

5. But GH is equal to the straight line C. (*Construction* 2.)

6. Therefore GK is equal to the straight line C. (*Axiom* 1.)

7. And FG is equal to the straight line B. (*Construction* 2.)

8. Therefore the three straight lines KF, FG, GK, are equal to the three straight lines A, B, C, each to each.

CONCLUSION.—Therefore the triangle KFG has its three sides, KF, FG, GK, equal to the three given straight lines, A, B, C. *Which was to be done.*

A similar mode of proof will shew that the triangle LFG also has its three sides, LF, FG, GL, equal to the three given straight lines A, B, C.

PROPOSITION 23.—PROBLEM.

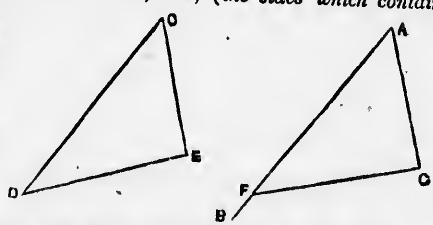
At a given point in a given straight line, to make a rectilineal angle equal to a given rectilineal angle.

GIVEN—1. Let AB be the given straight line, and A the given point in it.

2. And let DCE be the given rectilineal angle.

SOUGHT.—It is required to make an angle at the given point A, in the straight line AB, that shall be equal to the given rectilineal angle, DCE.

CONSTRUCTION.—1. In CD, CE, (*the sides which contain the given rectilineal angle DCE*), take any points, D, E.



2. Join DE.

3. On AB, construct a triangle AFG, the sides of which shall be equal to the three straight lines CD, DE, EC. (*Prop.* 22, *Book* I.)

Viz.—AF equal to CD, FG equal to DE, and EC equal to GA.

The angle FAG shall be equal to the angle DCE.

PROOF.—1. Because DC, CE are equal to FA, AG, each to