

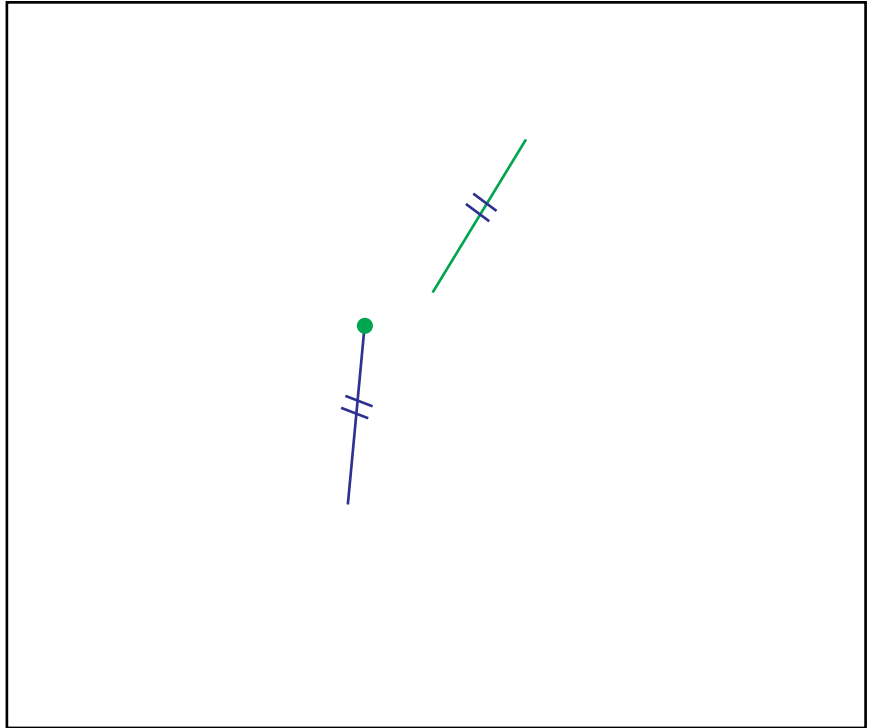
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## Construction 2: Book I, Proposition 2

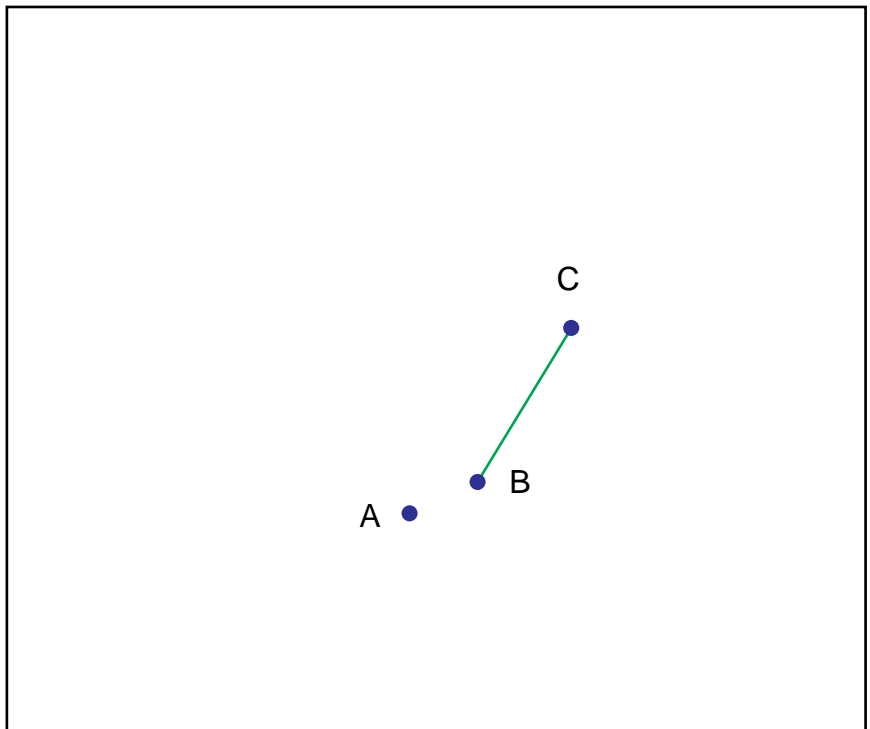
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*To place at a given point (as an extremity) a straight line equal to a given straight line.*

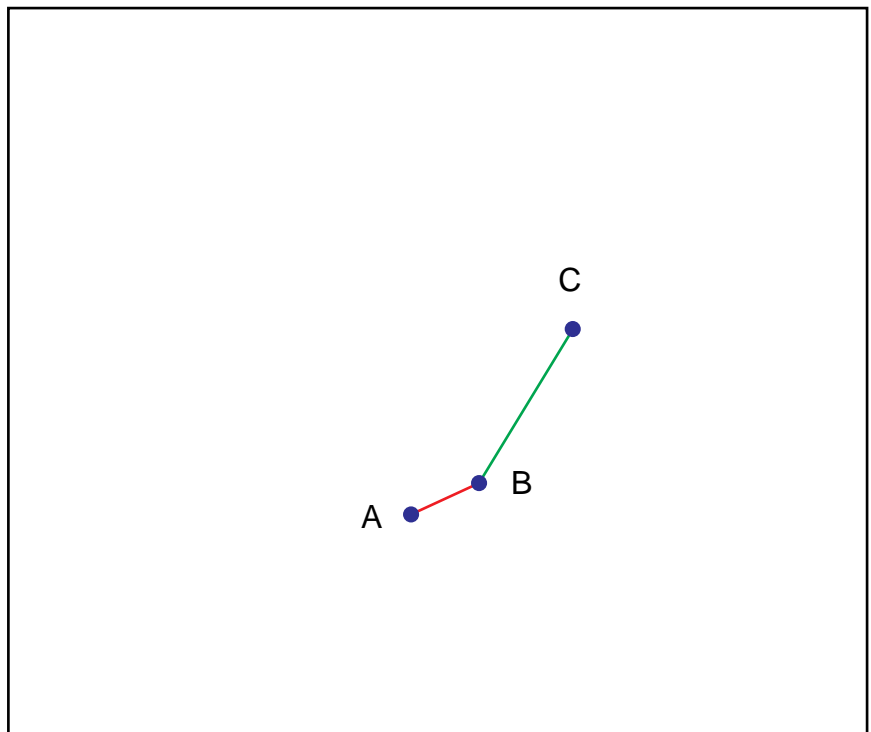
*Note:* Like Egyptian rope stretchers, we could set a compass and move it, but this is ruled out by the first three postulates. See Heath, v1, p. 246.



I.2:3. Let A be the given point, and BC the given straight line.

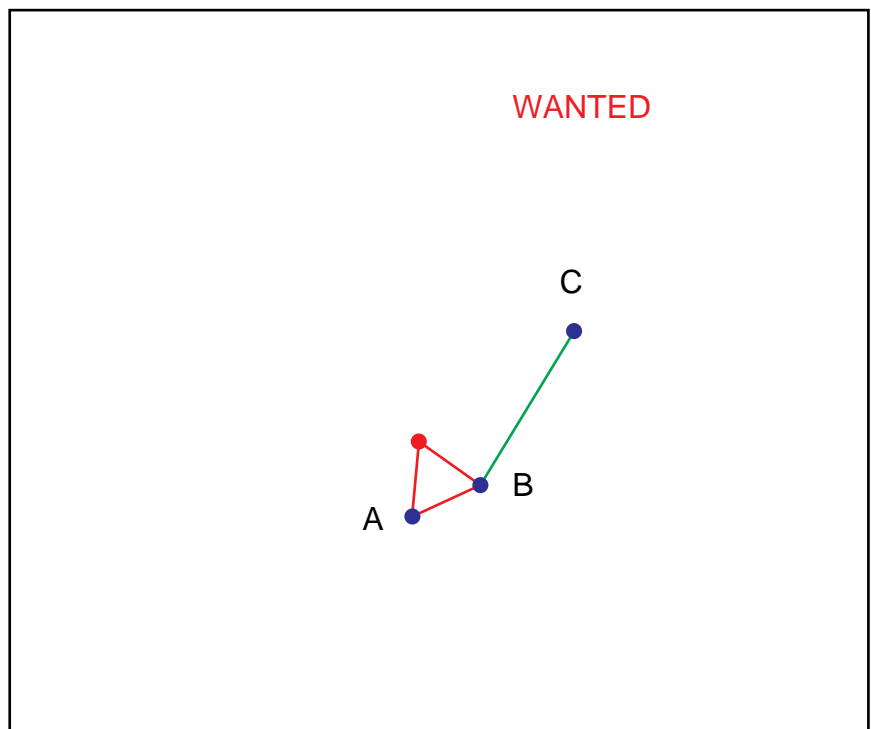


I.2:7. From the point A to the point B let the straight line AB be joined; [Post.1]

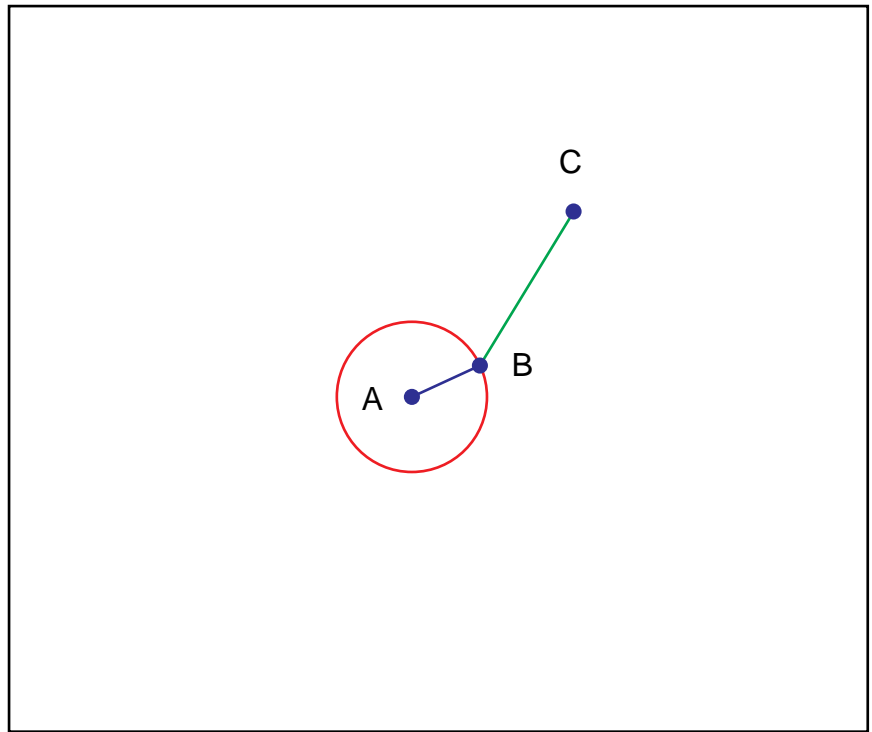


I.2:9. and on it let the equilateral triangle DAB be constructed. [I.1]

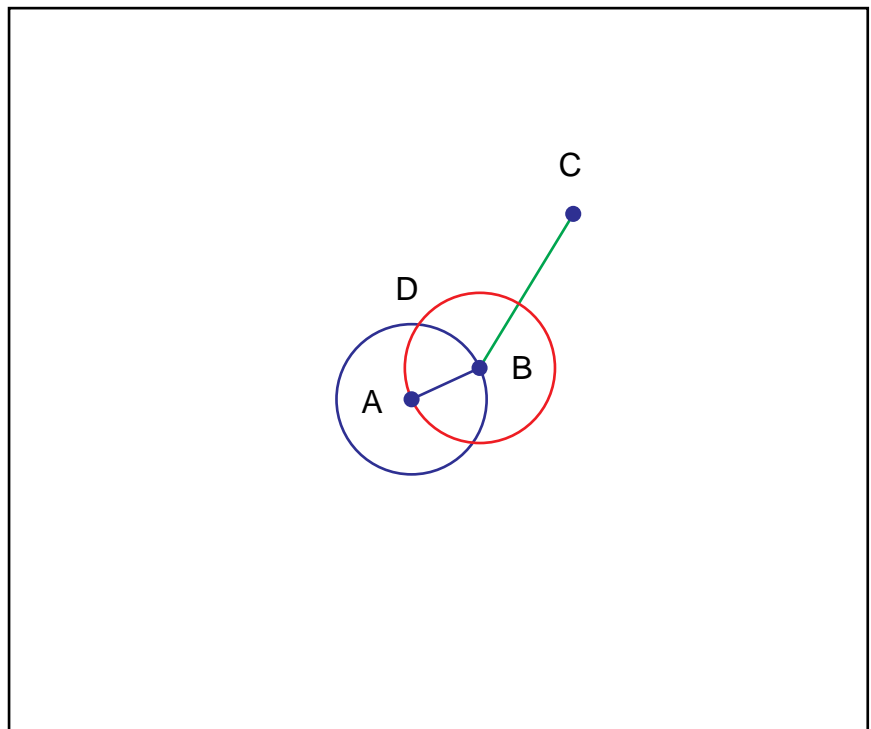
Now we must GOSUB I.1., the Vesica Pisces.



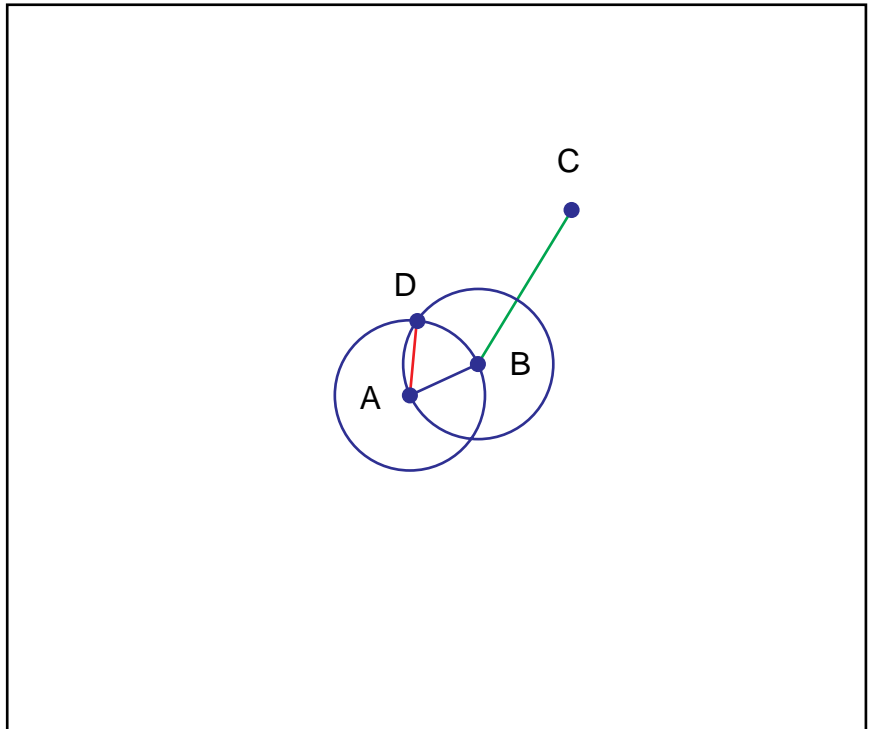
I.1:7. Draw the circle at centre A with distance AB.



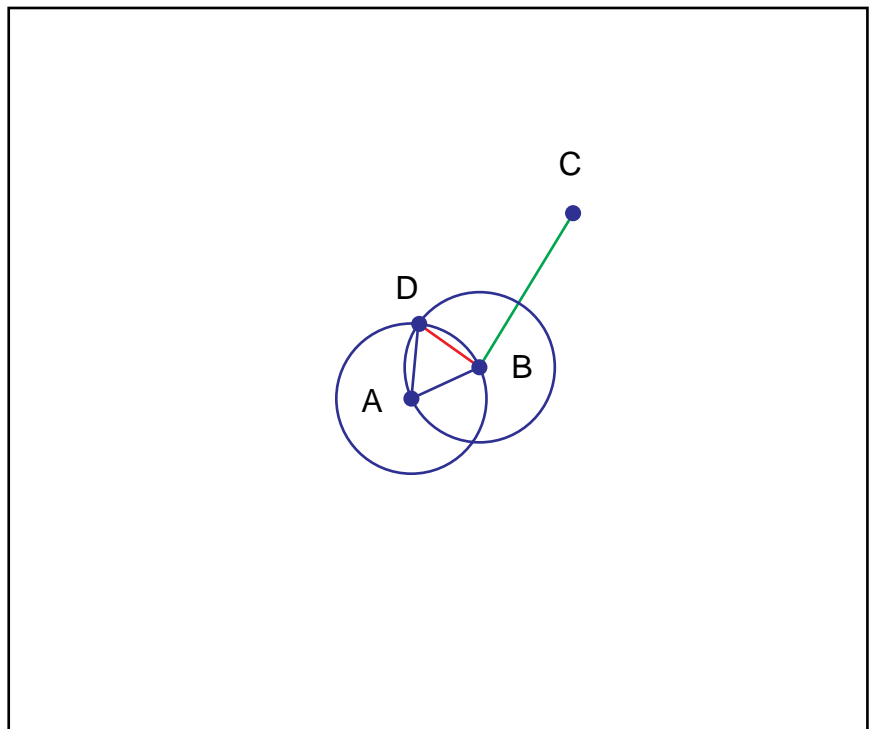
I.1:10. Draw the circle at centre B with distance AB.



I.1:13. Connect the points, AD.

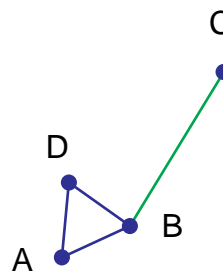


And to finish the triangle, connect DB.

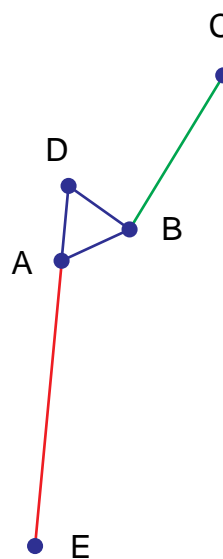


Cleanup constructions,

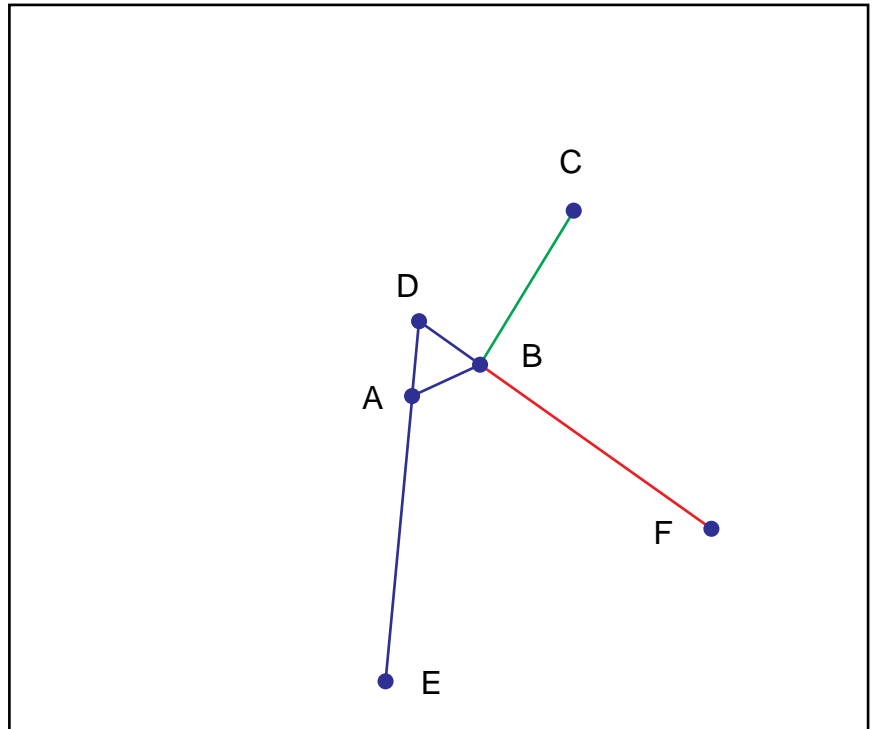
RETURN to I.2, at line 11.



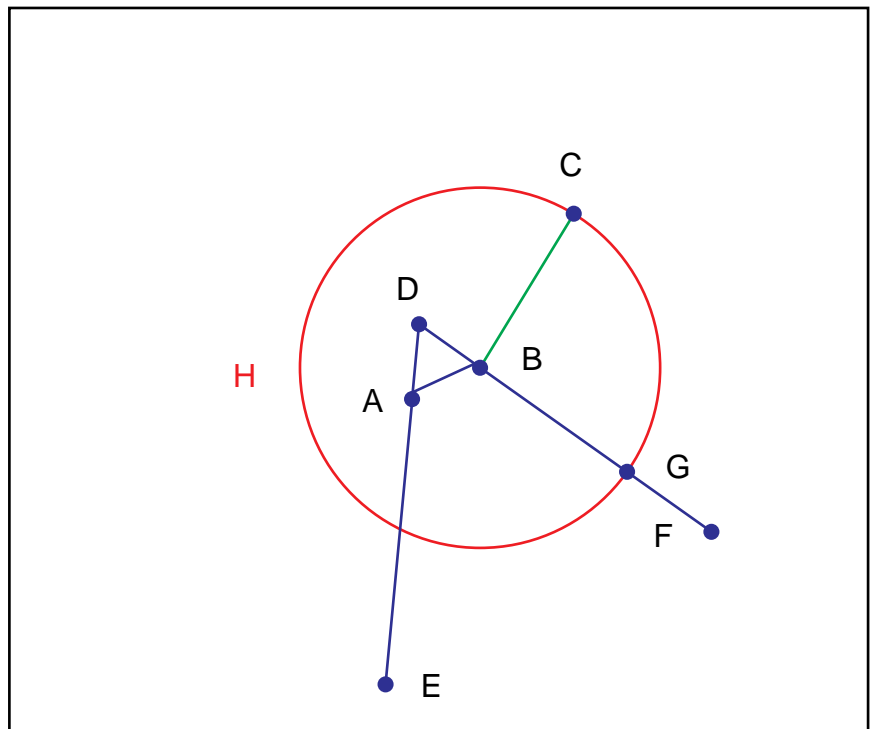
I.2:11. Let the straight lines AE, BF be produced in a straight line with DA, DB; [Post.2] (First, AE.)



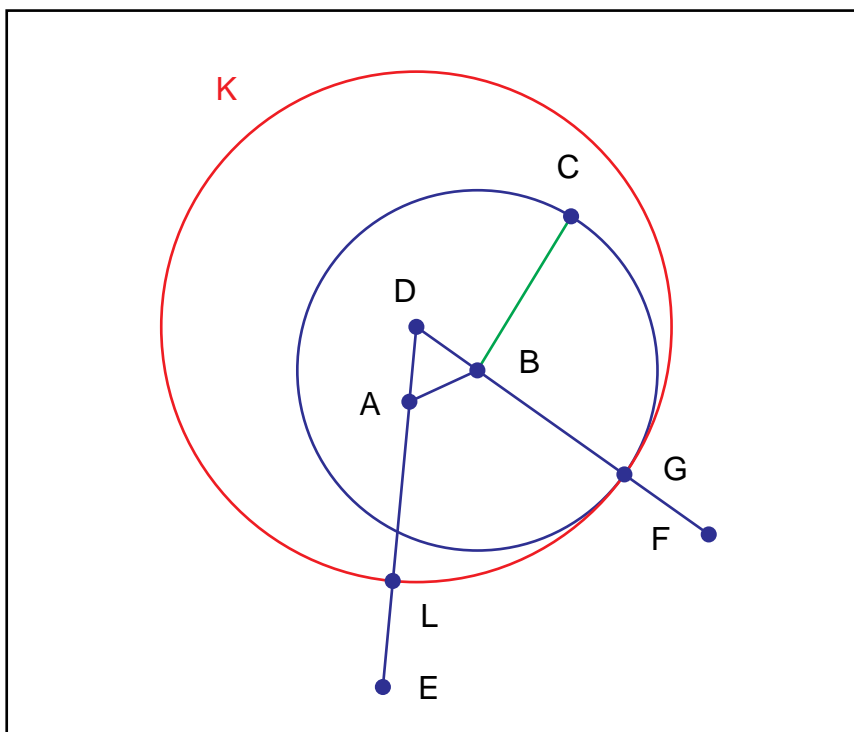
(Now, BF.)



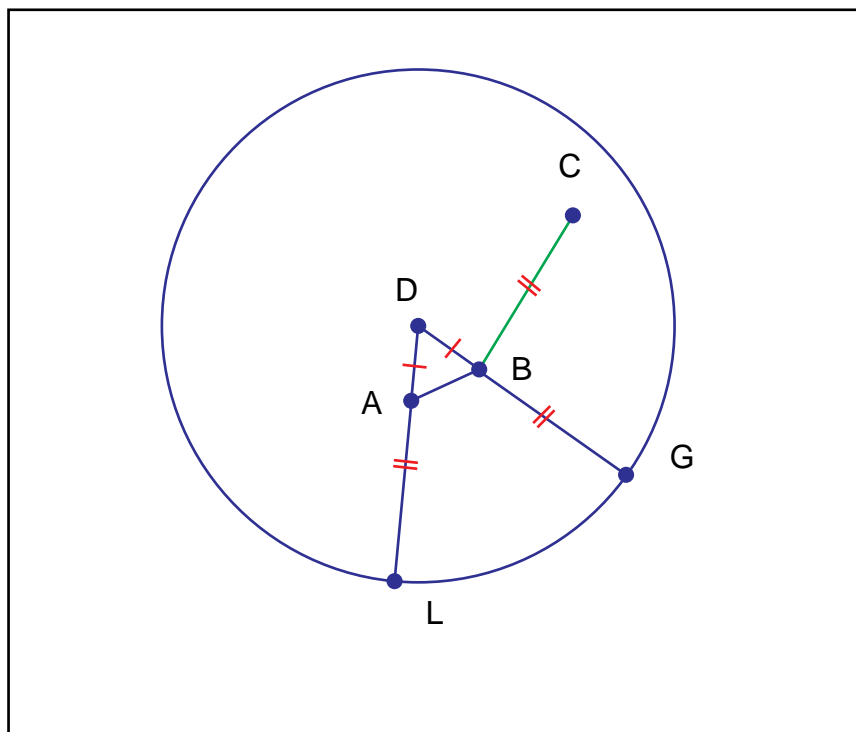
I.2:14. With centre B and distance BC let the circle CGH be described; [Post.3]



I.2:16. and again, with centre D and distance DG let the circle GKL be described. [Post.3] (The point L is where the new circle cuts DE.)



(The line AL is equal to BC and at A, so clean up construction.)



Q.E.F.

