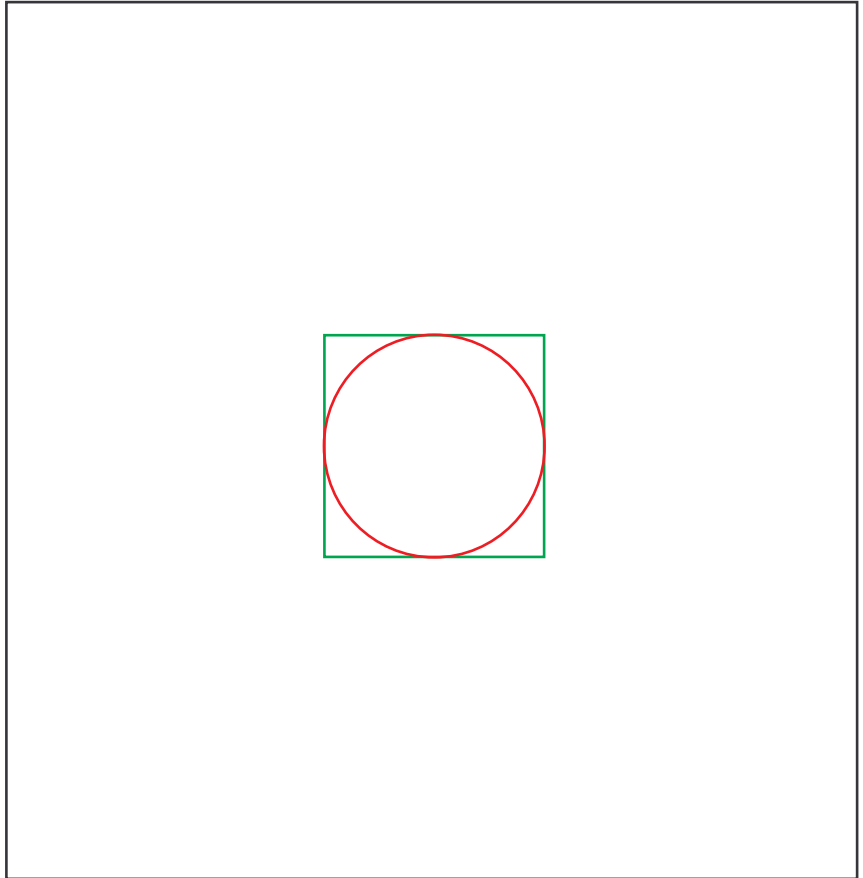
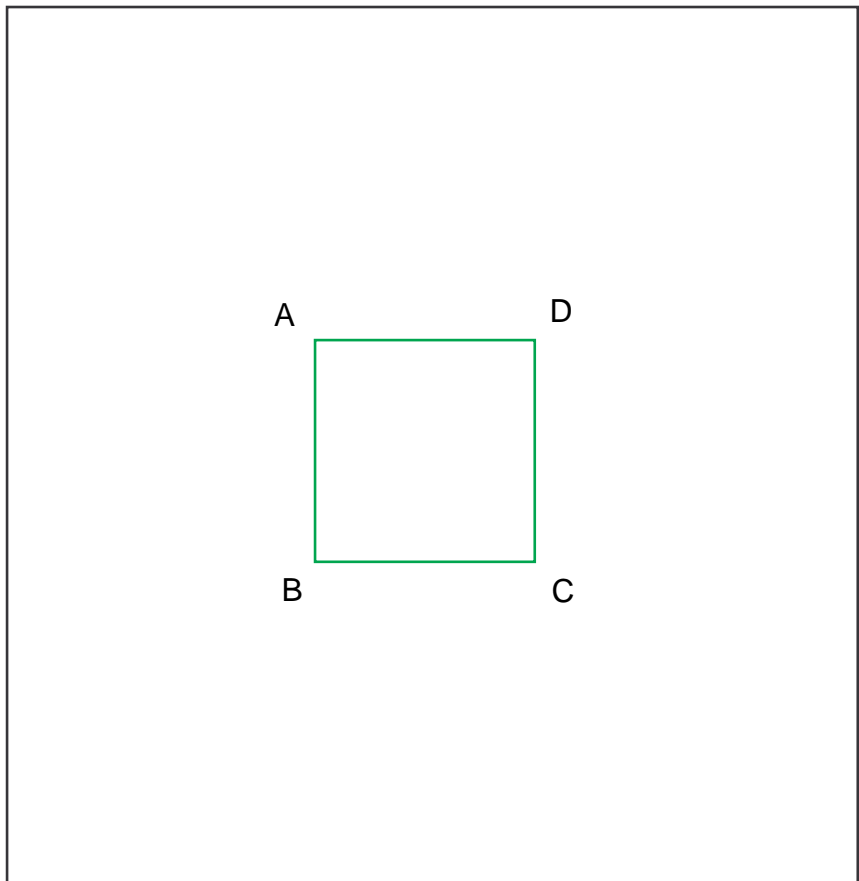

Construction 30: Book IV, Proposition 8

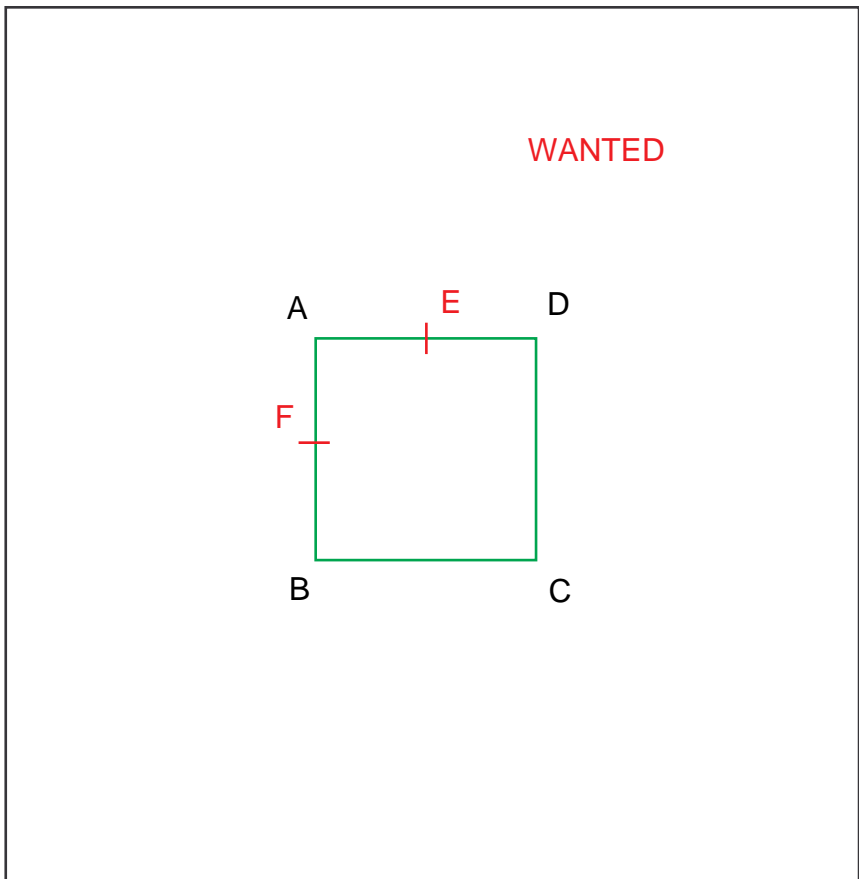
In a given square to inscribe a circle.



IV.8.1. Let ABCD be the given square;

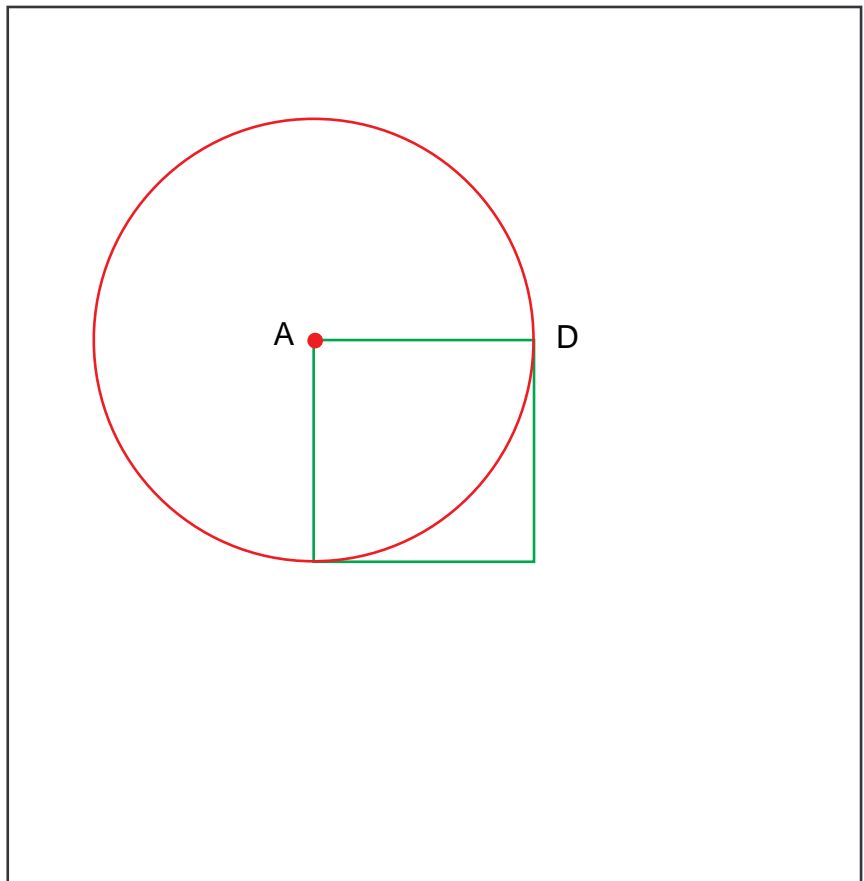


IV.8:5. Let the straight lines AD, AB be bisected at the points E, F respectively, [I.10],

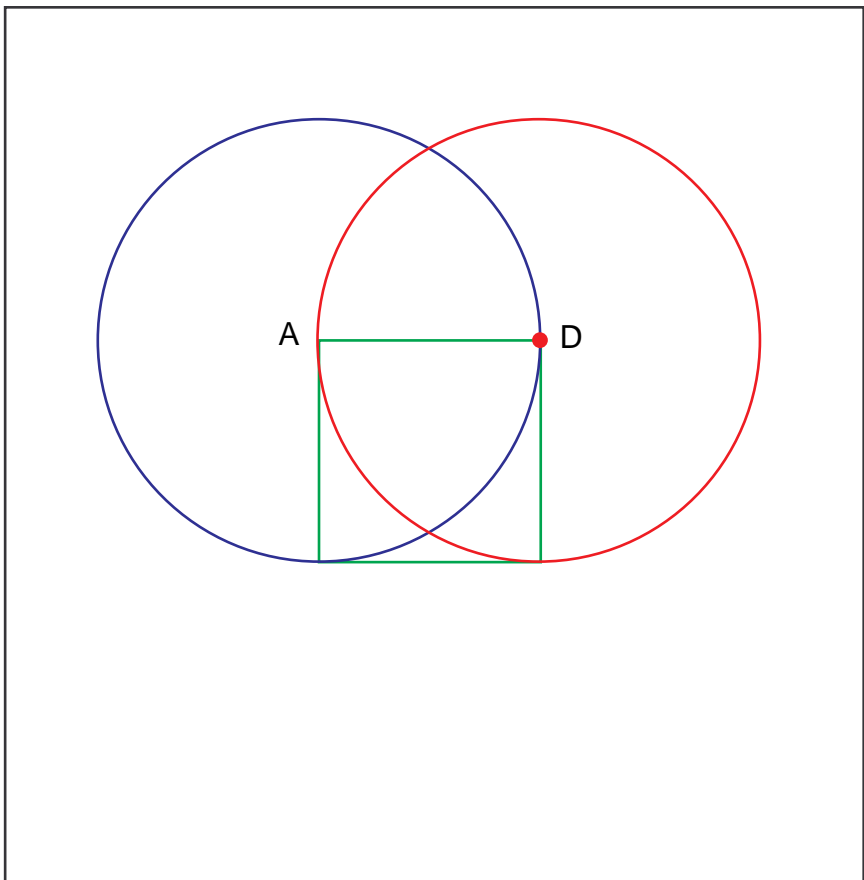


GOSUB I.10 for AD. (C#5B)

Swing AD around A.



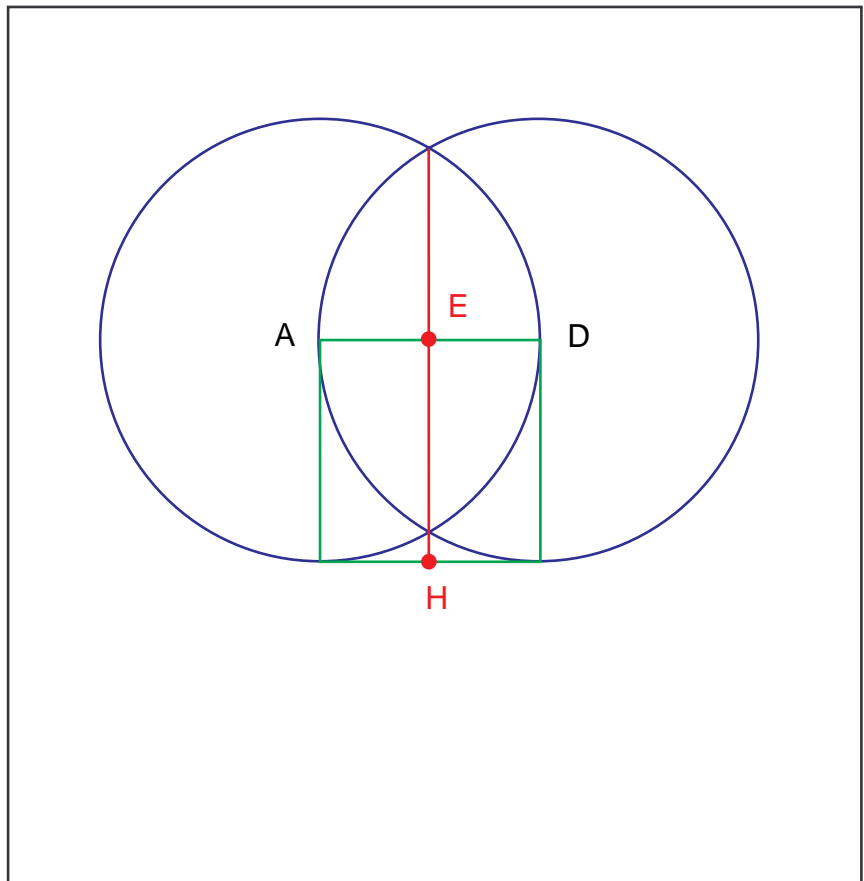
Swing DA around D.



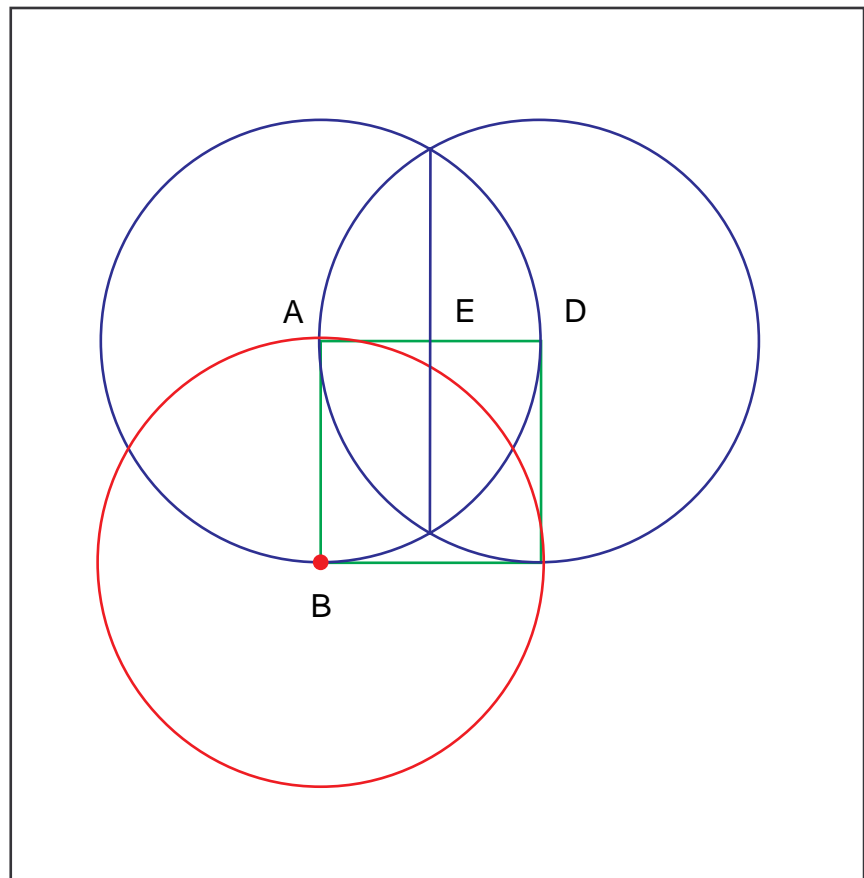
Connect the crossing points,
 extend across the given square,
 mark the points E, H.
 Do not cleanup.

RETURN to IV.8:5.

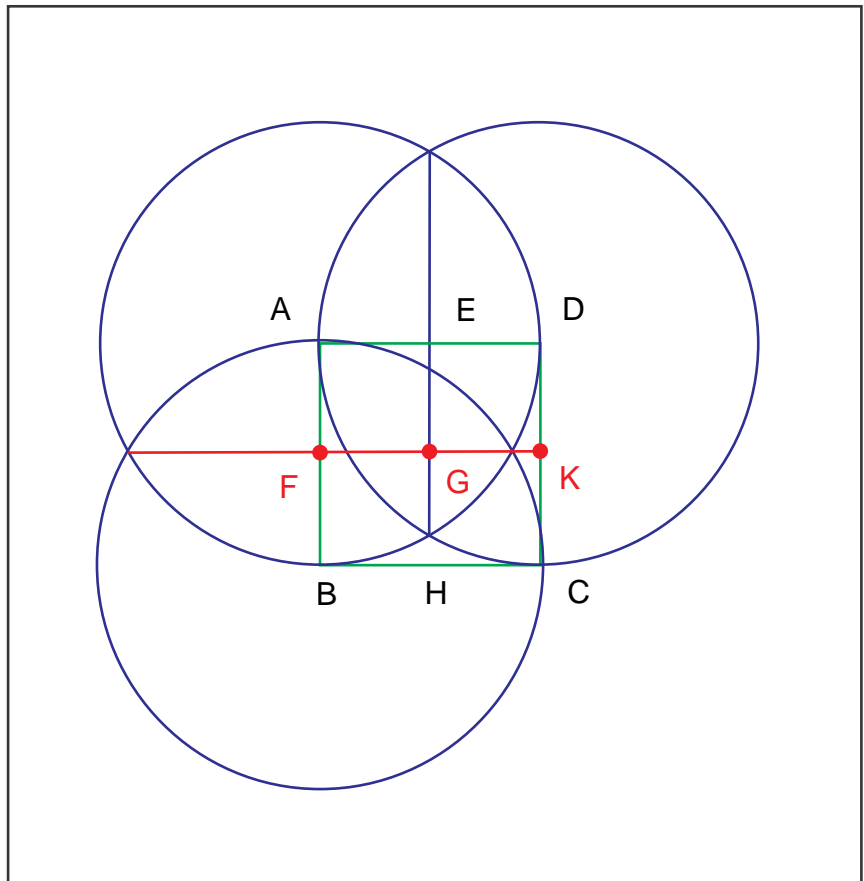
GOSUB I.10 for AB



Swing BA around B.

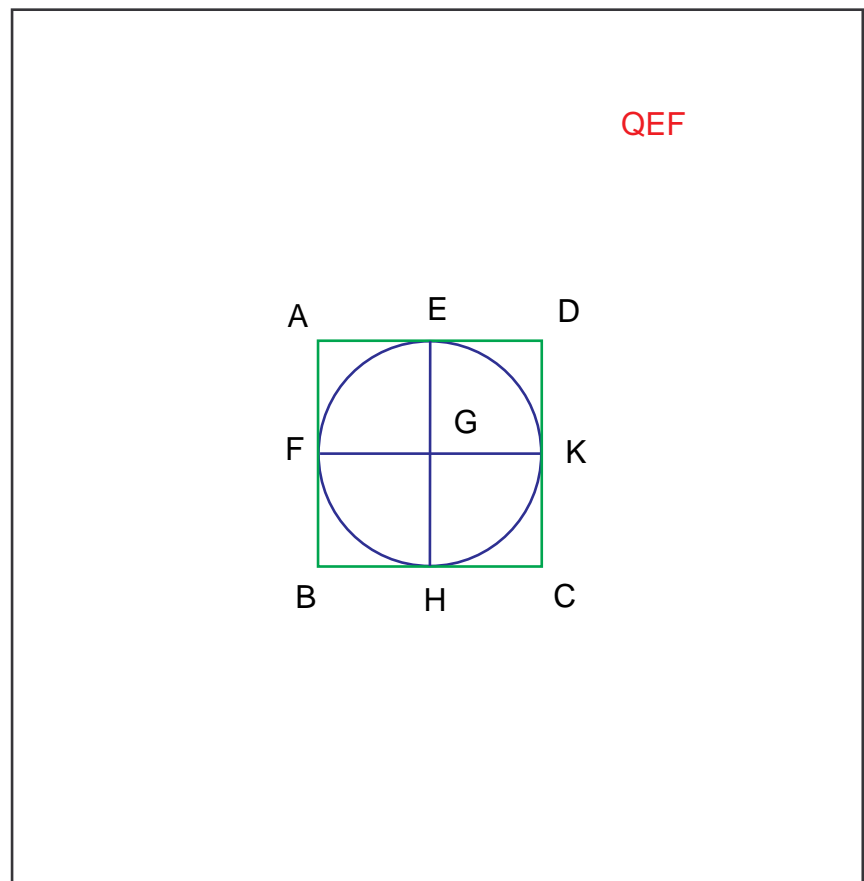


Connect the crossing points, extend across the given square, locate the points F, G, K.



RETURN to IV.8:5.
Cleanup. Preserve the two lines.

IV.8:24. Therefore the circle with centre G and distance one of the straight lines GE, GF, GH, GK will pass also through the remaining points.



IV.8:36. Therefore it will touch them, and will have been inscribed in the square ABCD.

