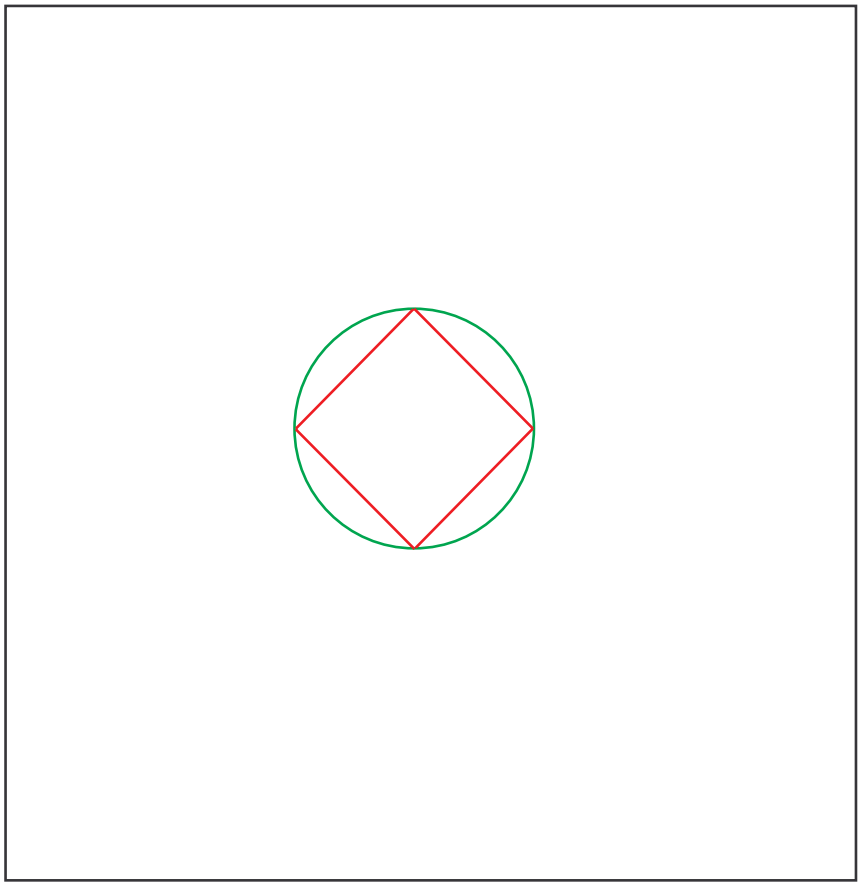
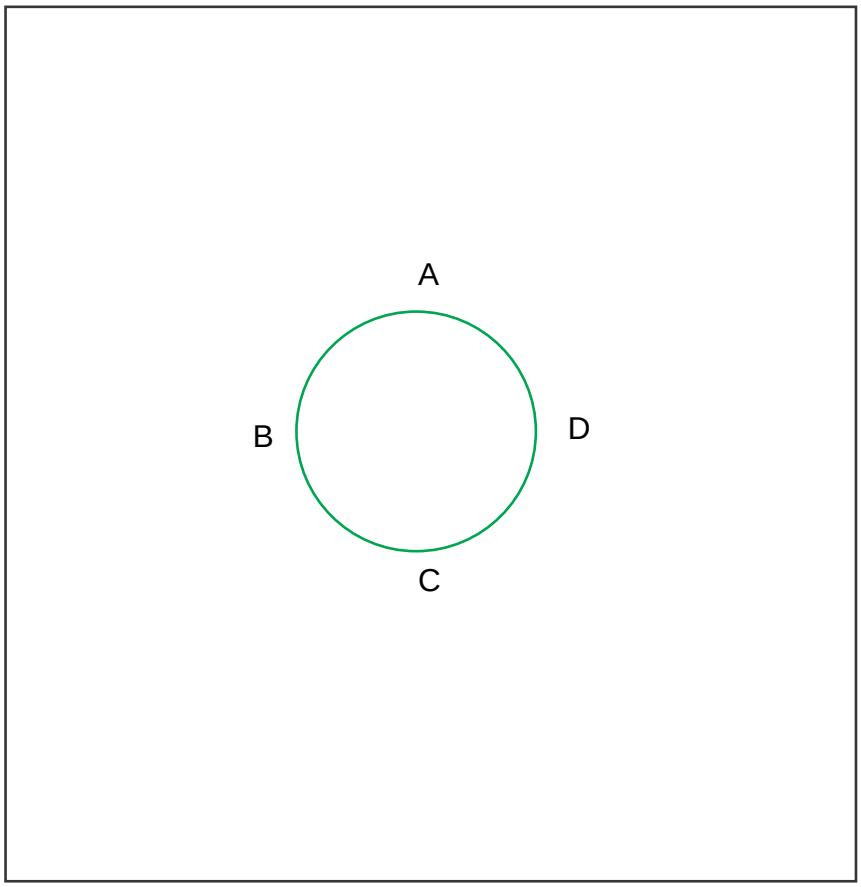
Construction 28: Book IV, Proposition 6

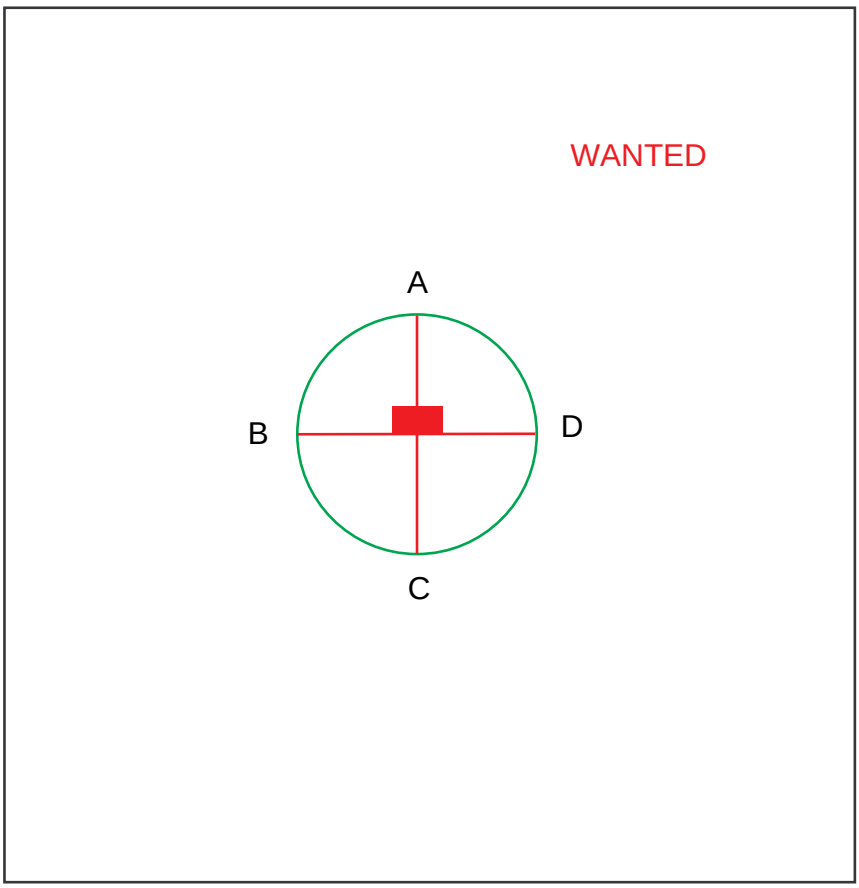
In a given circle, to inscribe a square.



IV.6:2. Let ABCD be the given circle.



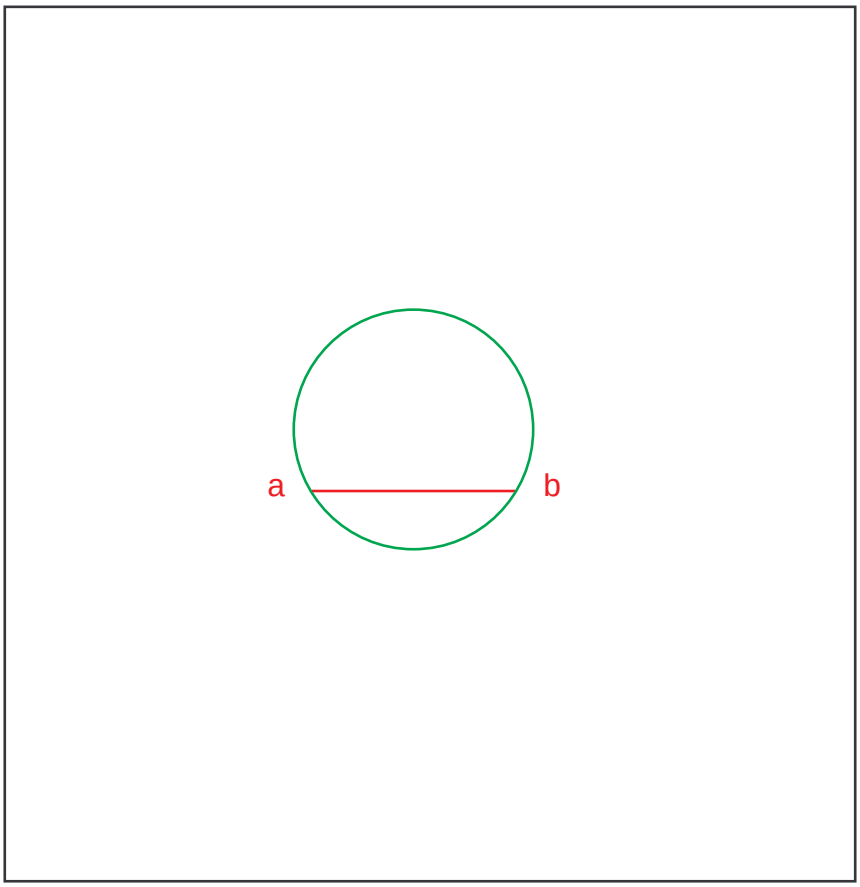
IV.6:4. Let two diameters AB, BD of the circle ABCD be drawn at right angles to one another,



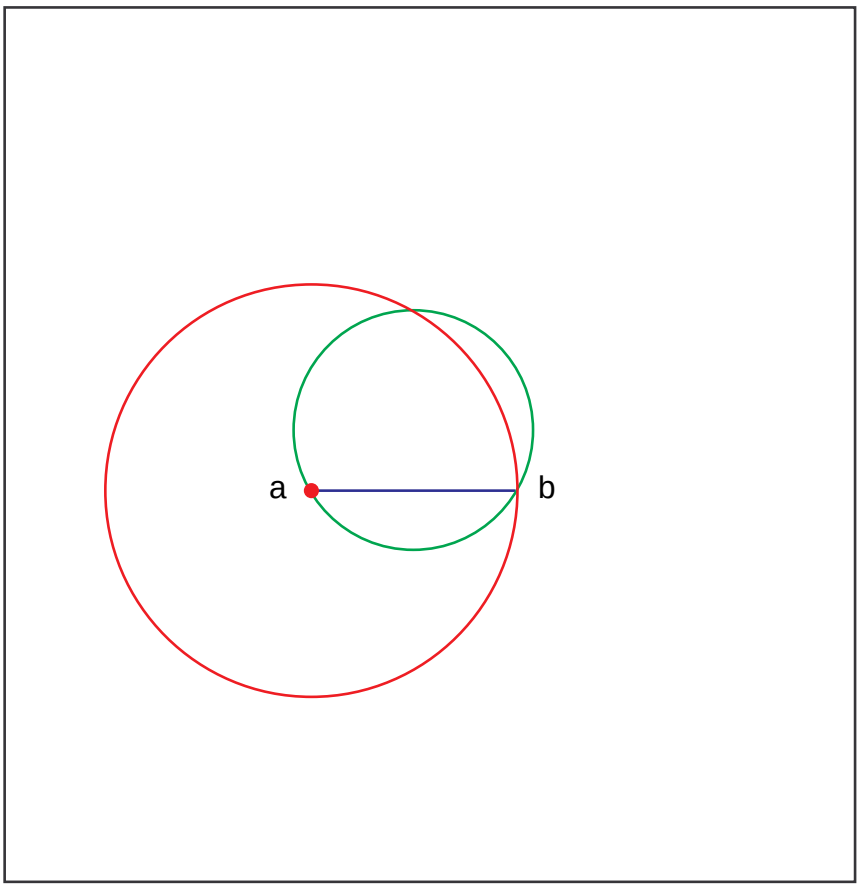
First, we must find the centre. ([III.1]).

GOSUB III.1.

III.!:4. Let a straight line ab be drawn through it at random,

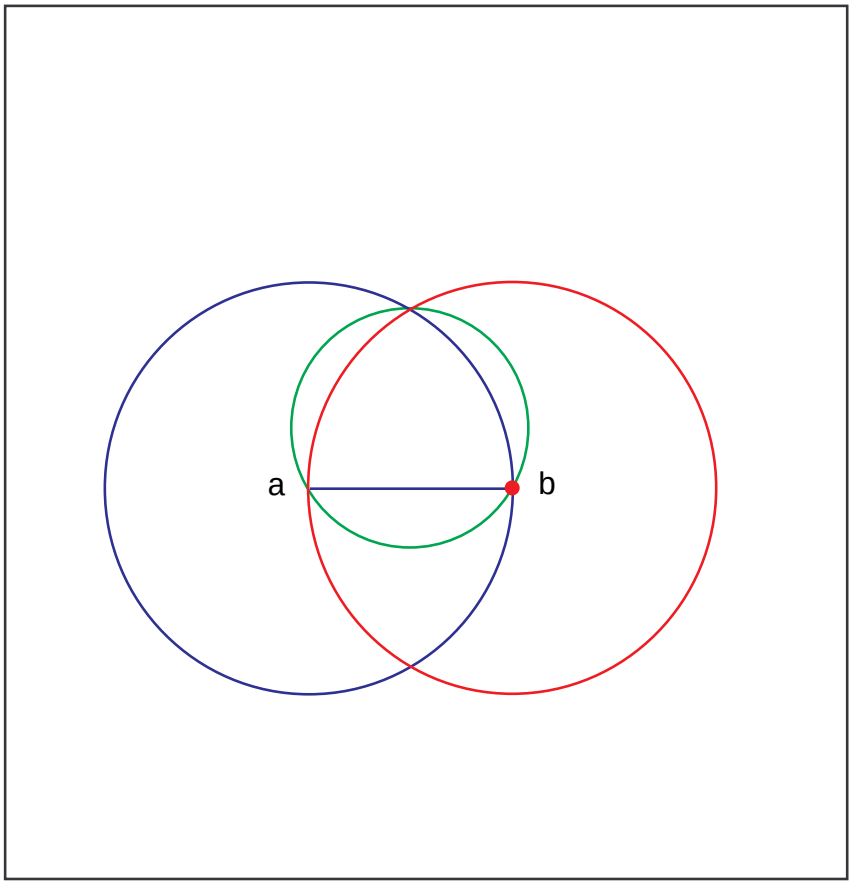


III.1:5. and let it be bisected at the point d, ([I.10])



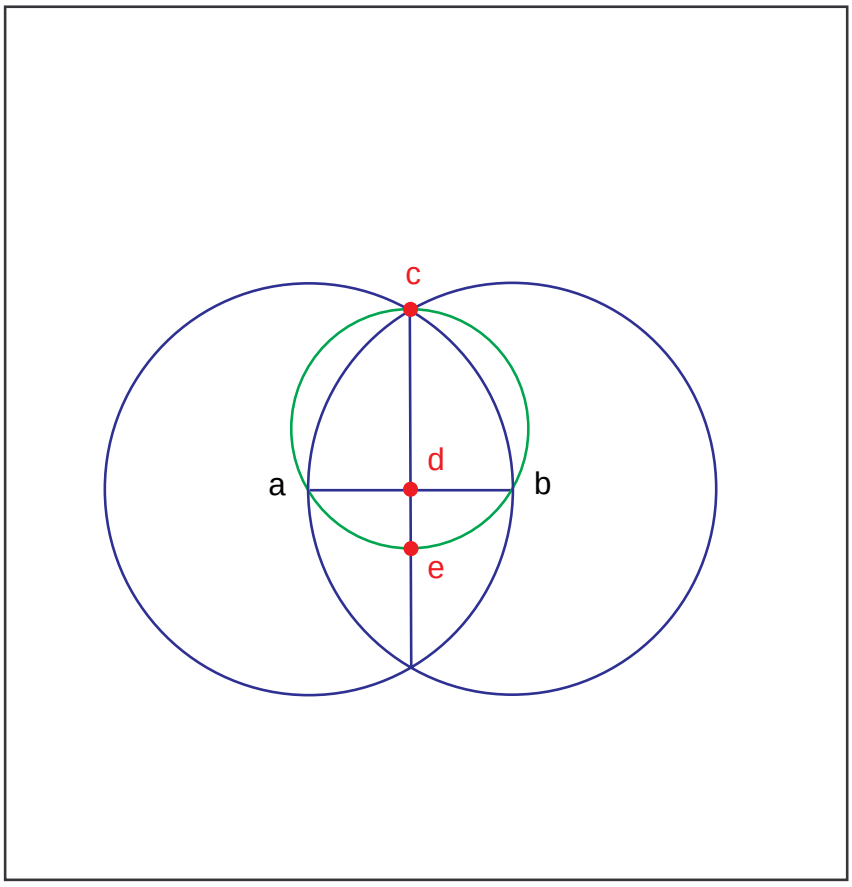
GOSUB I.10 (C#5B)
Swing ab around a.

Swing bs around b.

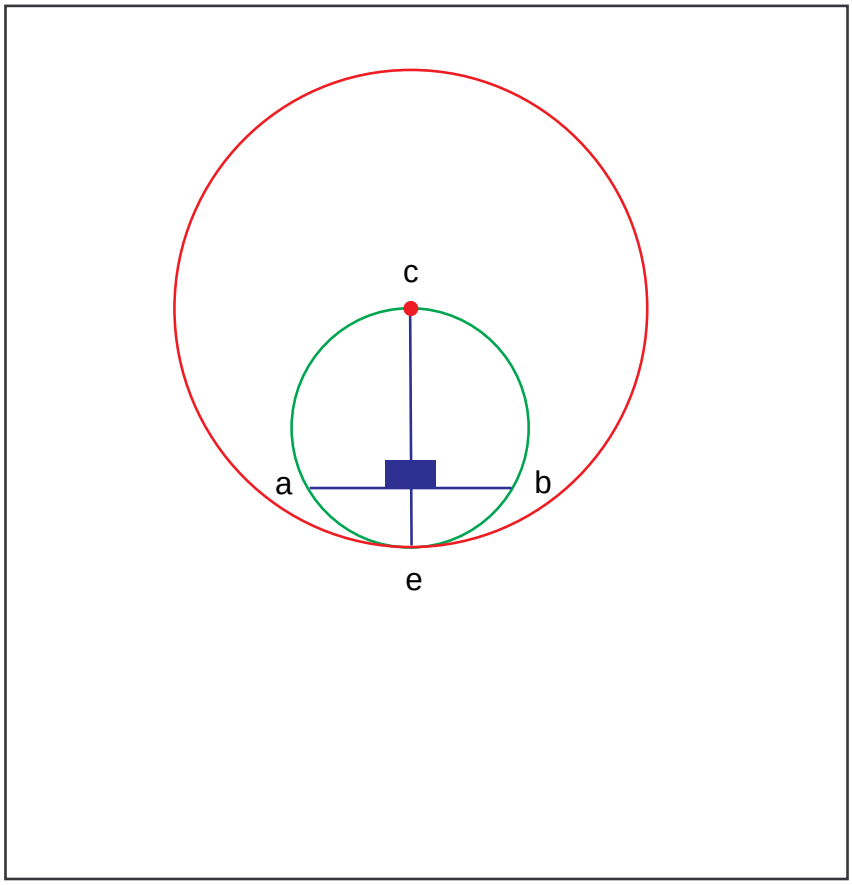


Connect the crossing points. Mark the point d. Extend the line to cut completely the given circle, mark points c, e.

RETURN to III.1 at line 5. Cleanup, but preserve the new line, ce.

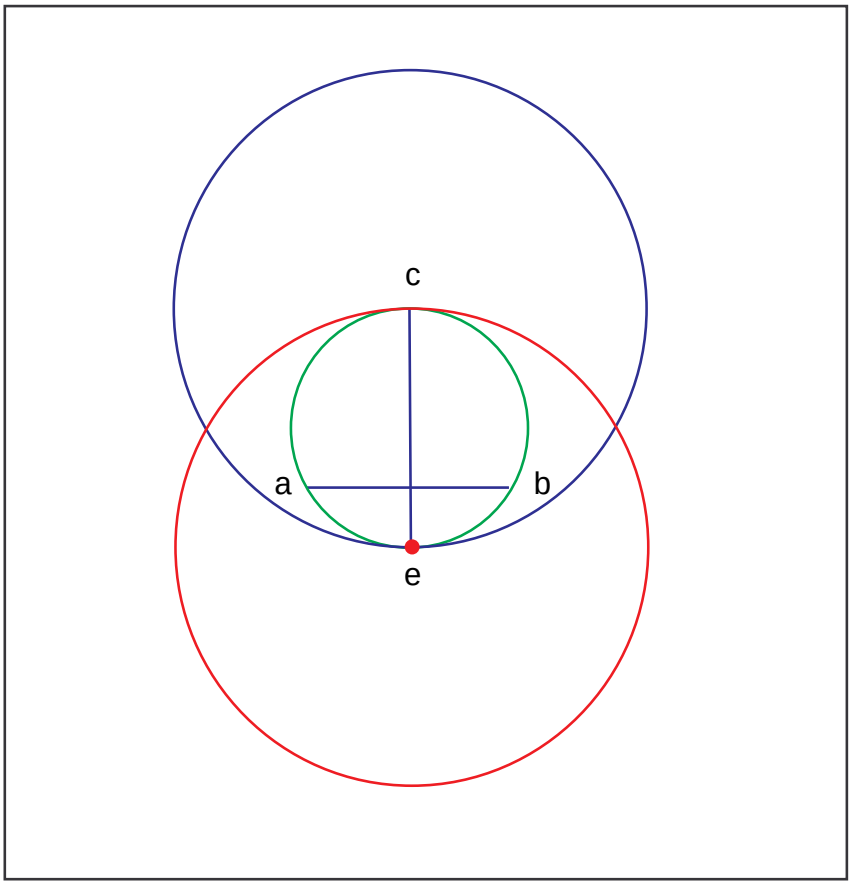


III.1:9. let ce be bisected at f; ([I.10])



GOSUB I.10 (C#5B) again.
Swing ce around c.

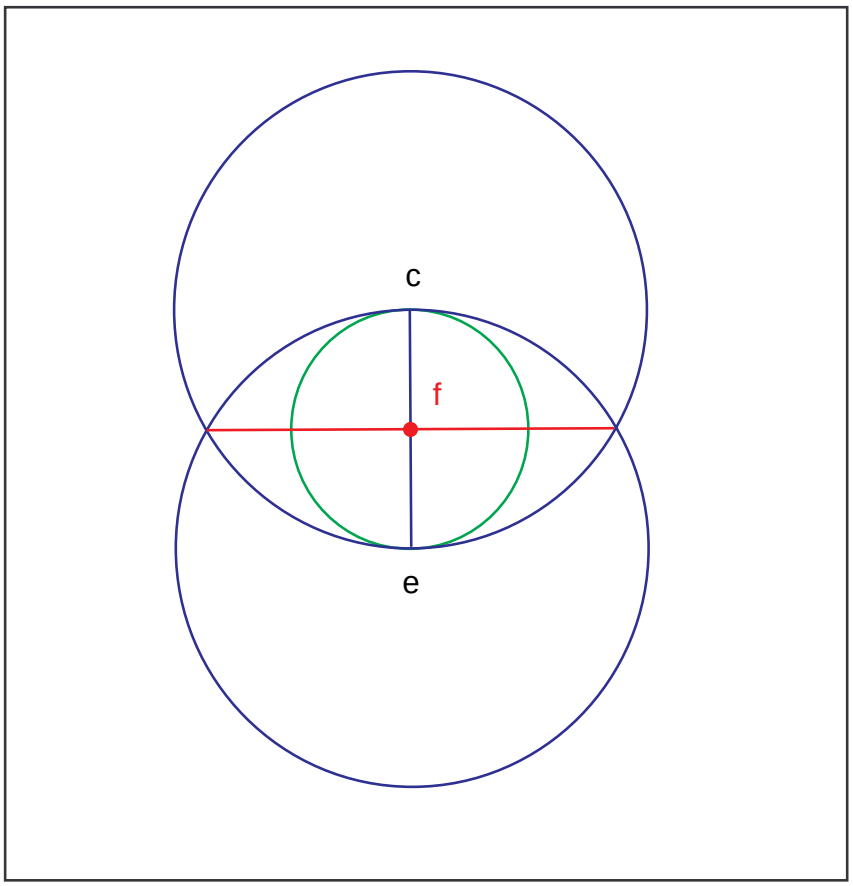
Swing ec around e.



Connect the two crossing points. Mark the point f.

Mark the points in which this line meets the circle.

Cleanup. Keep the diameter ce, RETURN to III.1 at line 9. RETURN to IV.6 at line 4. Relabel.



IV.6:6. and let AB, BC, CD, DA be joined.

DONE

Q.E.F.