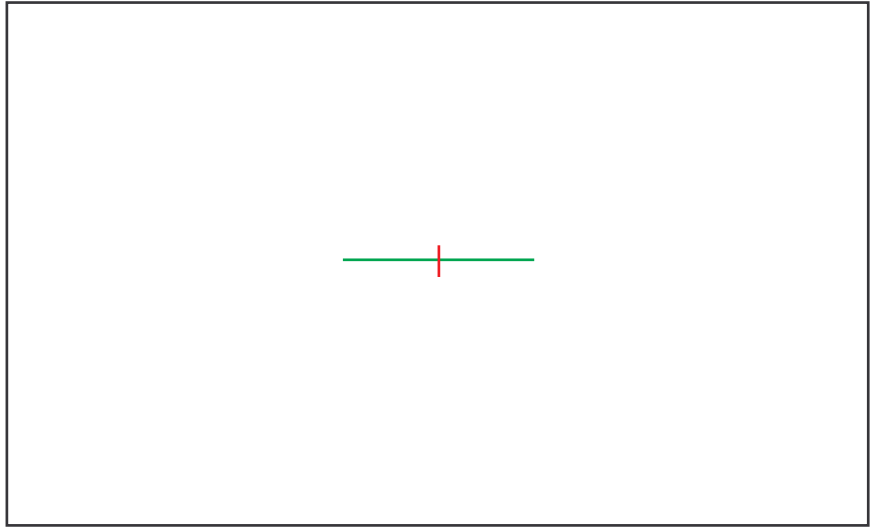
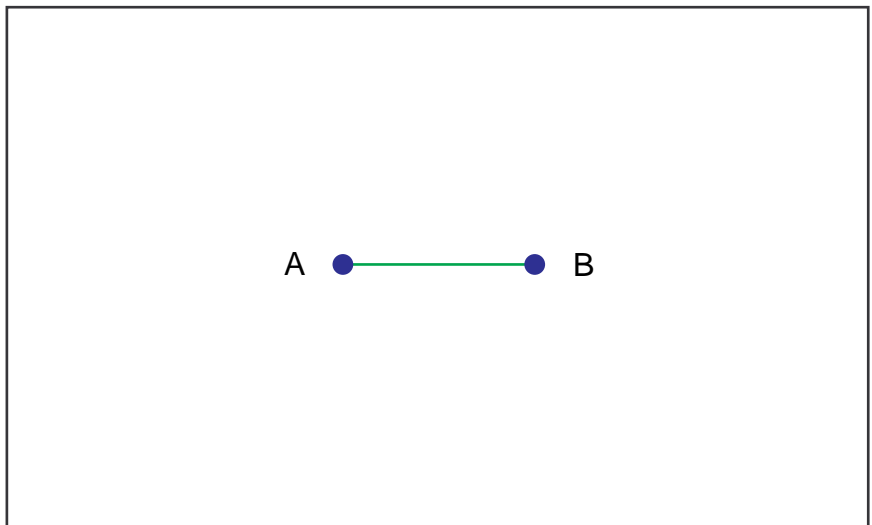

Construction 5: Book I, Proposition 10

To bisect a given finite straight line.

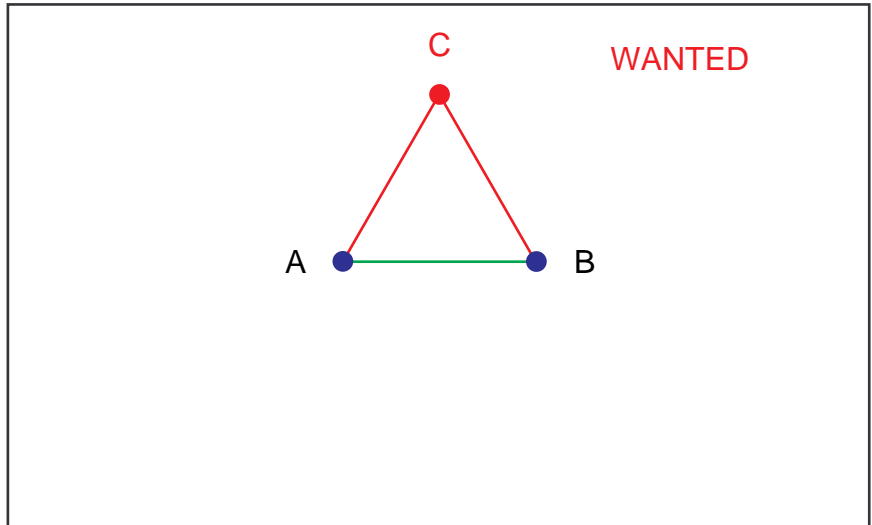


I.10:2. Let AB be the given finite straight line.

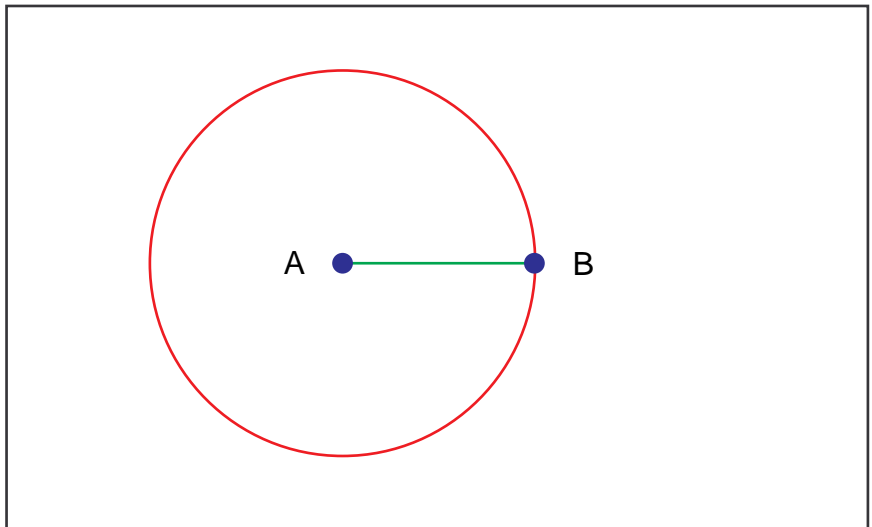


I.10:4. Let the equilateral triangle ABC be constructed on it, [I.1]

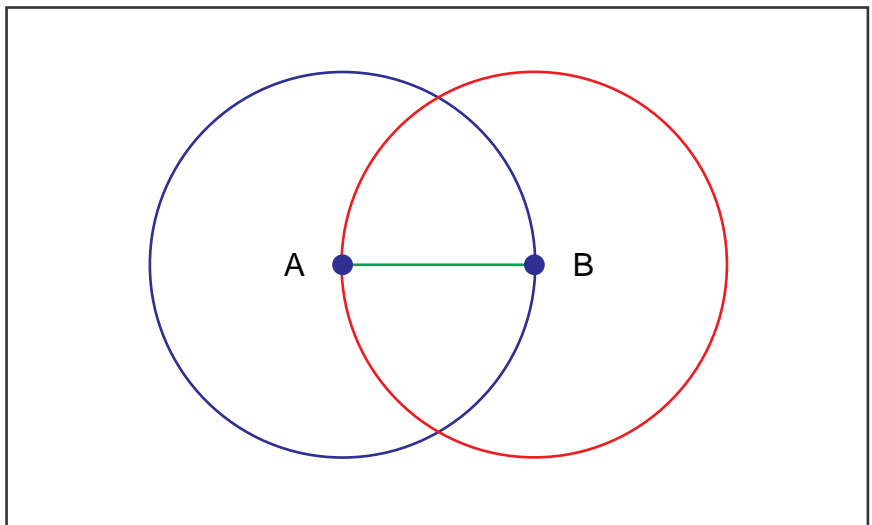
GOSUB I.1.



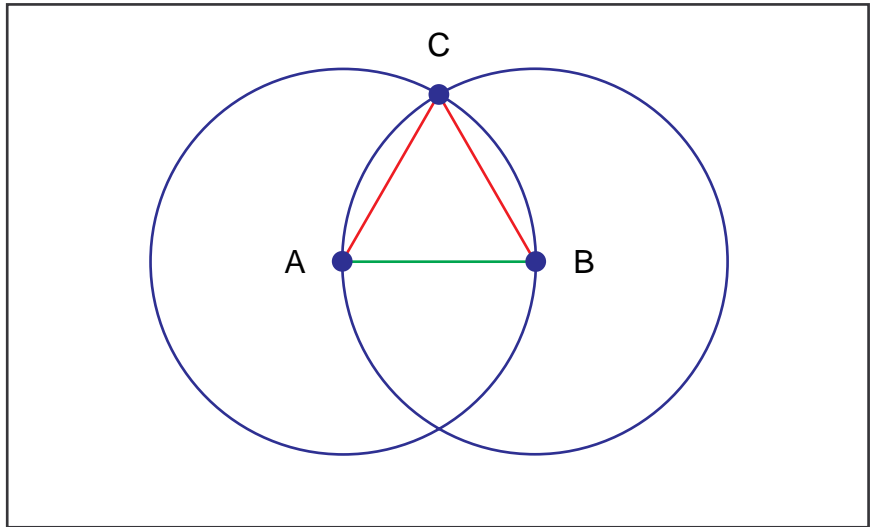
I.1:7. With centre A and distance AB let the circle BCD be described; [Post.3]



I.1:10. again, with centre B and distance BA let the circle ACE be described; [Post.3]

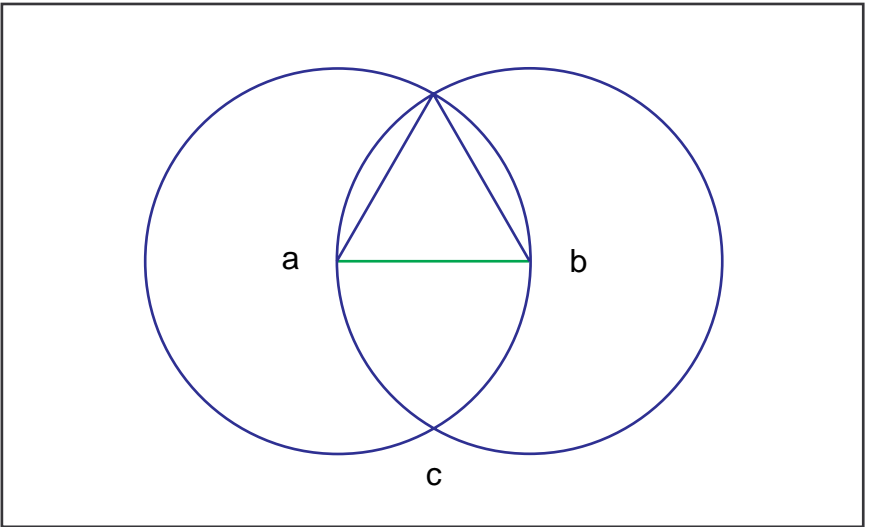


I.1:13. and from the point C, in which the circles cut one another, to the points A, B let the straight lines CA, CB be joined.



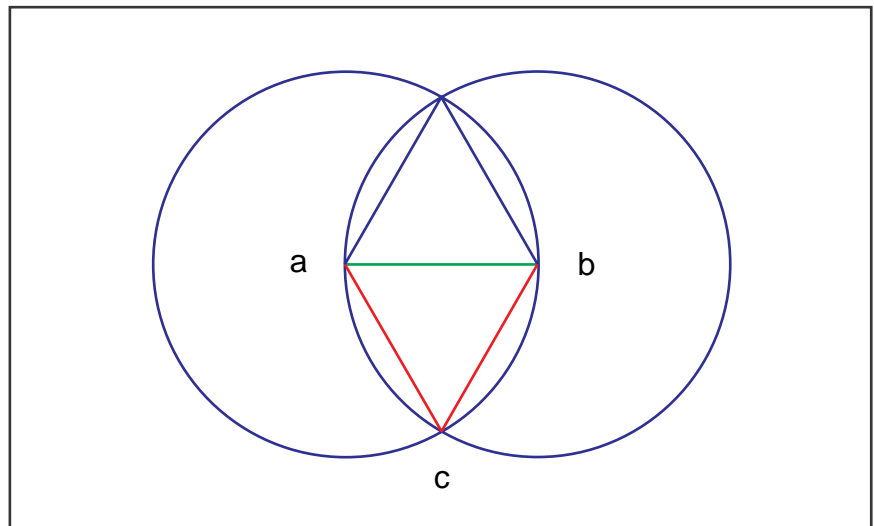
RETURN to I.10 at line 4.

I.10:6. and let the angle ACB be bisected by the straight line CD; [I.9]

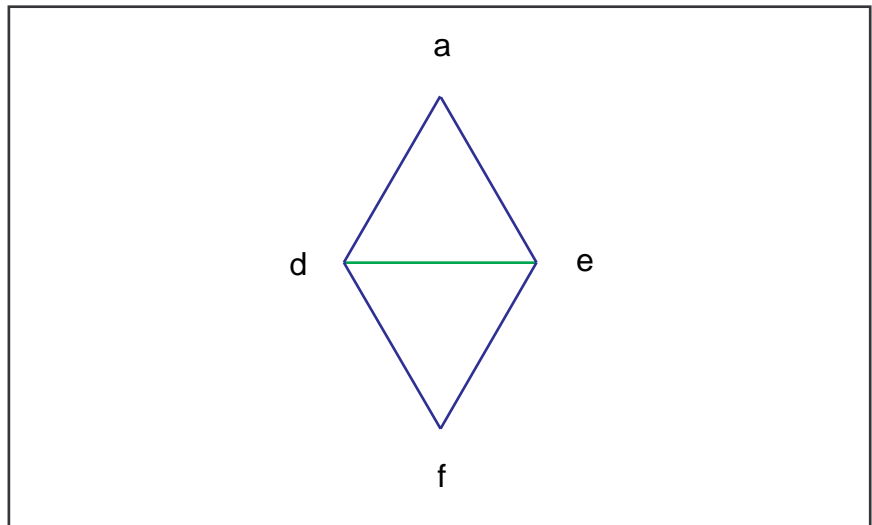


GOSUB I.9. However, notice that we have the construction of I.9 nearly complete here. We relabel as in I.9 figure 8, and go on to the next step, figure 9 of I.9.

I.9:13. and from the point c, in which the circles cut one another, to the points a, b let the straight lines ca, cb be joined. [Post.1]

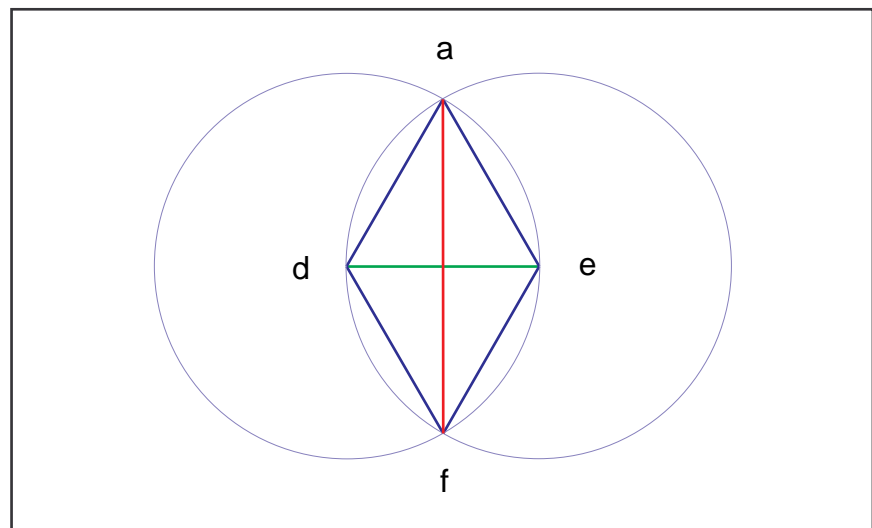


RETURN to I.9 at line 6,
cleanup, and relabel. (Otherwise,
this is figure 10 of I.9.)



I.9:8. Let af be joined.

NOTE: We could have drawn
this line immediately after figure
3 in this construction.



RETURN to I.10 at line 6 and
relabel.

I.10:8. I say that the straight line
 AB has been bisected at the point
 D .

Q.E.F.

