Constructing the Midpoint of a Segment

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Theorem 11.2. Given a segment, find the midpoint (par 3).
Given a segment AB.
1) Draw a circle with the center through the point A.
2) Draw a circle with the center through the point B.
Then label intersection points of the circle and label a rhombus.
3) Draw a line CD.

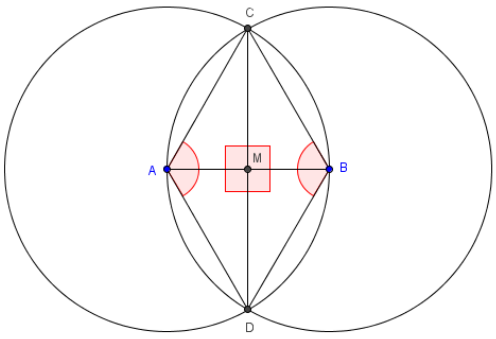

Figure 1: Midpoint of a segment AB

Proof. In this case, ACBD is a rhombus because of four congruent side. By Ms. Van Nevele's Theorem, we know that M is the midpoint of BD (in my case AB).By the proof of the Theorem 1.2, we know that diagonals of a rhombus meet. Thus, we conclude that M is a midpoint of a segment AB. □