

# Construction 1: The Golden Cut

Find the Golden  
Cut of the line  
segment AB.

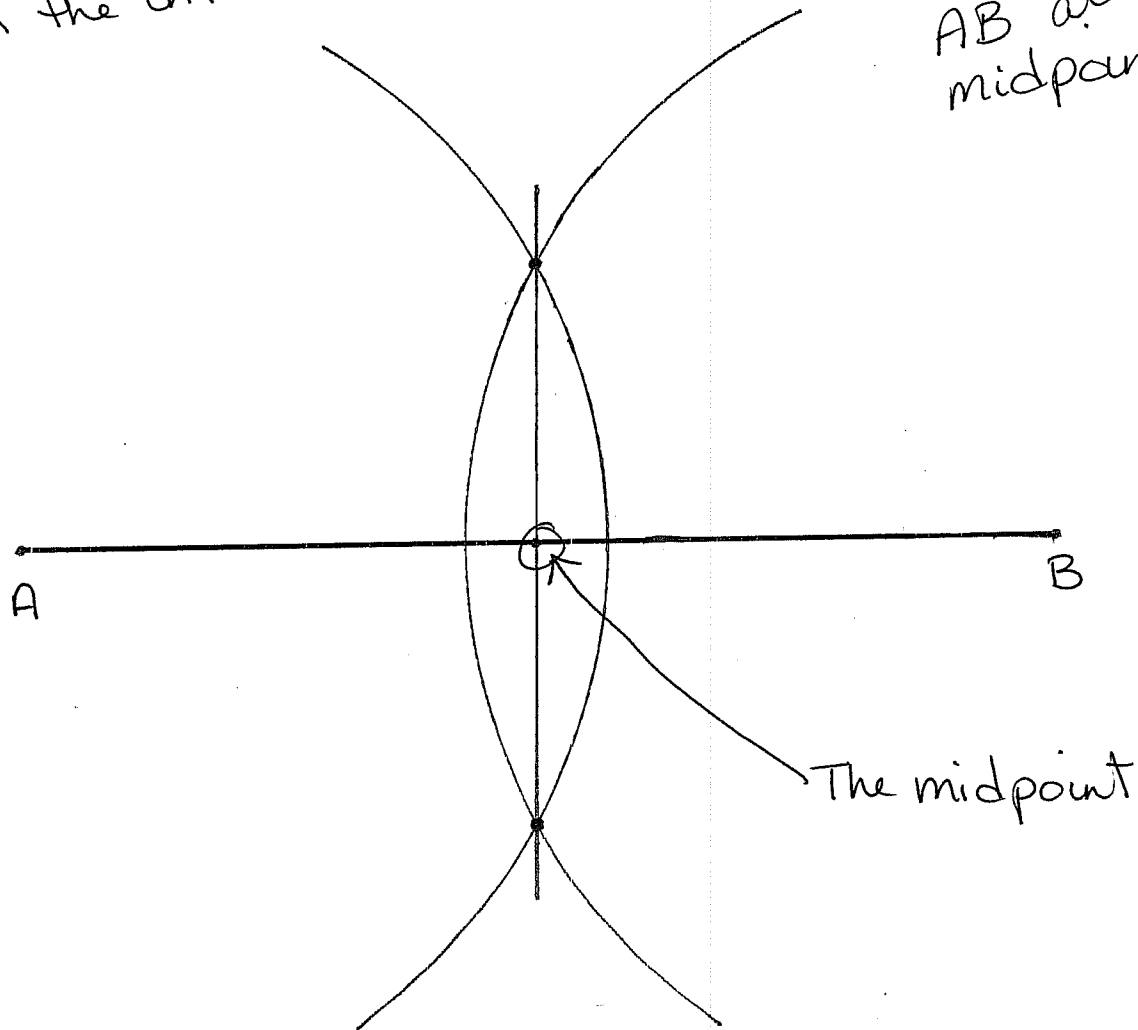
(We will find the point closest to B)



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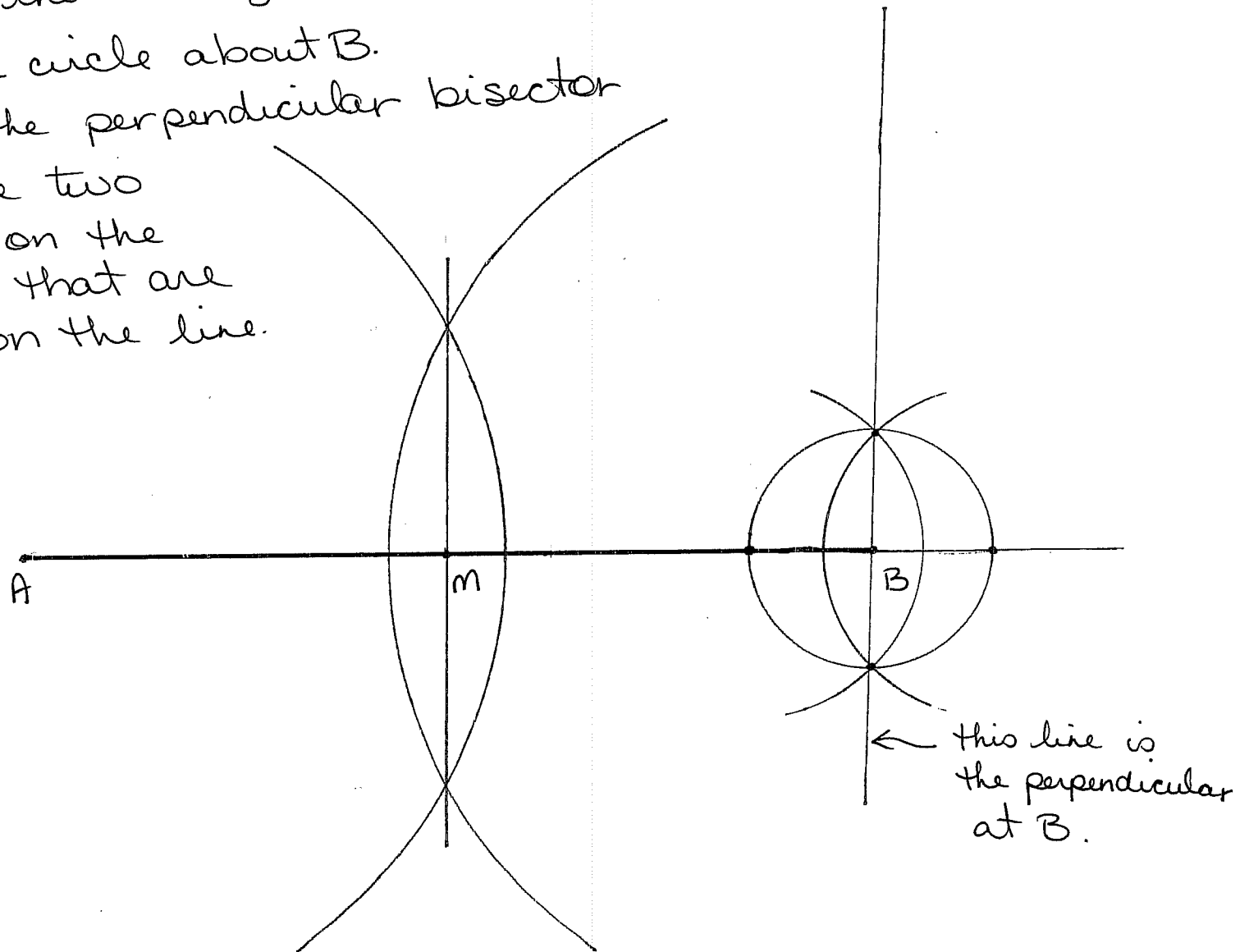
1. Find the midpoint of  $AB$ .
  - Draw an arc from  $A$  of some radius  $r$ .
  - Draw an arc from  $B$  of the same radius  $r$ .
  - Join the intersections of these two arcs.

↑ This line meets  $AB$  at  $M$ , the midpoint.



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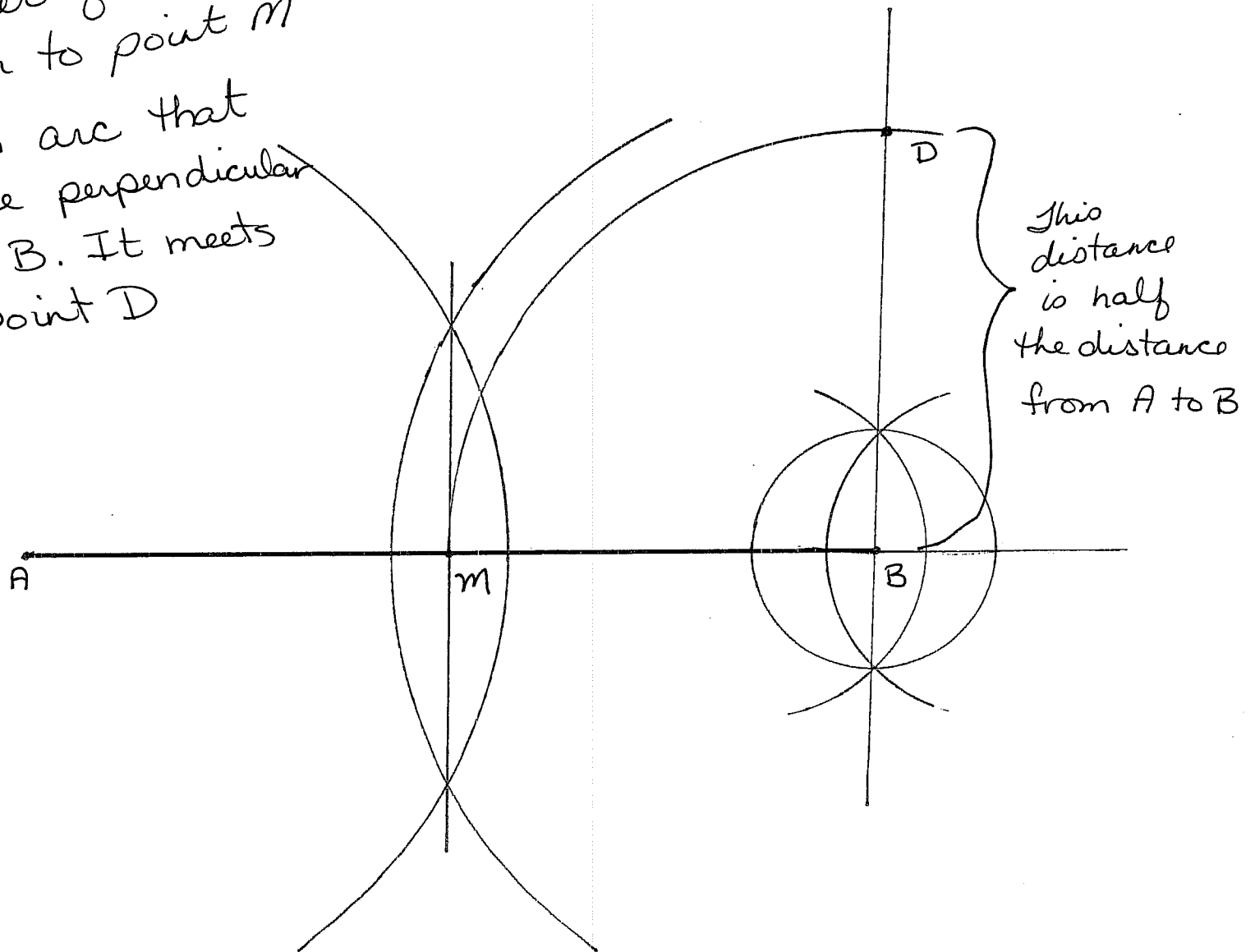
2. Find the perpendicular at B
- Extend the line segment AB beyond B.
  - Draw a circle about B.
  - Find the perpendicular bisector of the two points on the circle that are also on the line.



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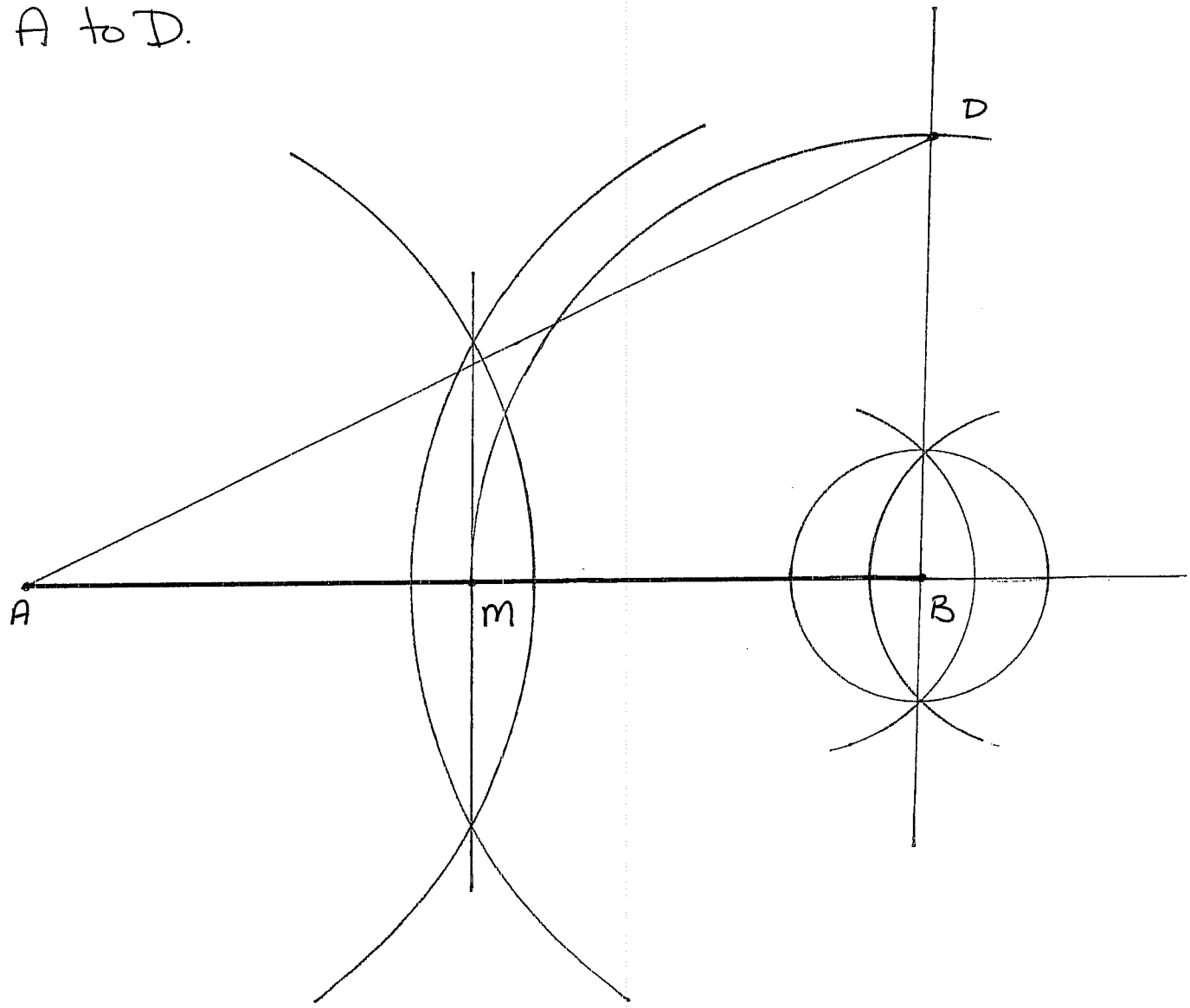
3. Find D

- Place center of compass at B and open to point M
- Draw an arc that meets the perpendicular to AB at B. It meets in the point D



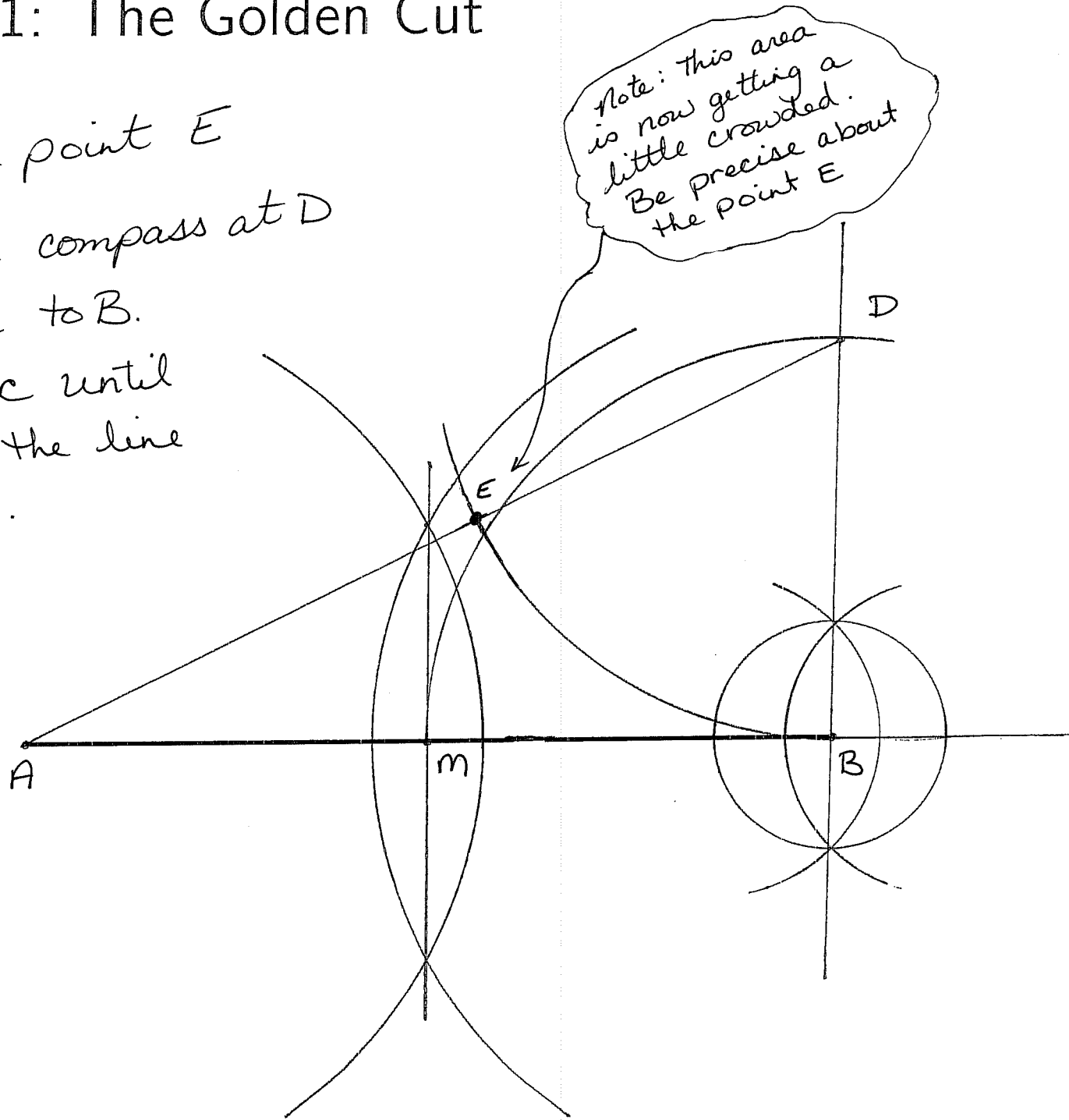
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4. Draw the line joining A to D.



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5. Find the point E
- Center the compass at D and open to B.
  - draw arc until it meets the line AD at E.



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6. Find C

- center compass at A  
open to E, and  
arc down until  
it meets line  
AB at a point C

C is the desired  
Golden Cut.

