

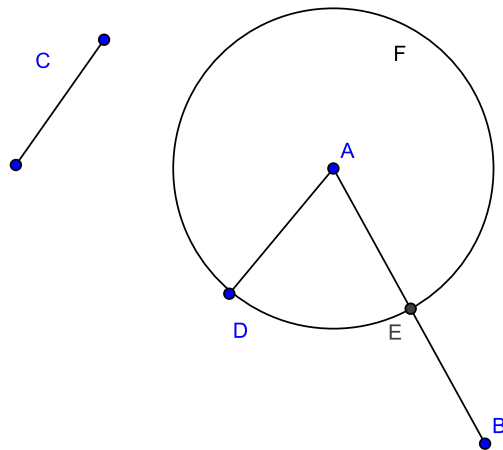
**Proposition I.3**

**Speaker:** Jillian Cronin

**Scribe:** Jacob Georgeson

**Artist:** Sarah Latino

January 21, 2009



Prop I.3: Given two unequal straight lines, to cut off from the greater a straight line equal to the less

- Let  $AB$  and  $C$  be the unequal straight lines, and let  $AB$  be the greater
  - We must divide  $AB$  into two pieces such that one of the pieces is the same size as  $C$
  - Draw straight line  $AD$  at the point  $A$  with the same length as  $C$  (Prop I.2)
  - Draw circle  $DEF$  with center  $A$  and radius  $AD$  (postulate 3)
  - $AD=AE$  (Definition 15)
  - $AD=C$  (Prop I.2)
  - $AE=C$  (c.n. 1)
  - Thus, a line  $AE$  has been cut off from  $AB$  such that  $AE=C$ , and the desired result is obtained
- QEF