

Book 1

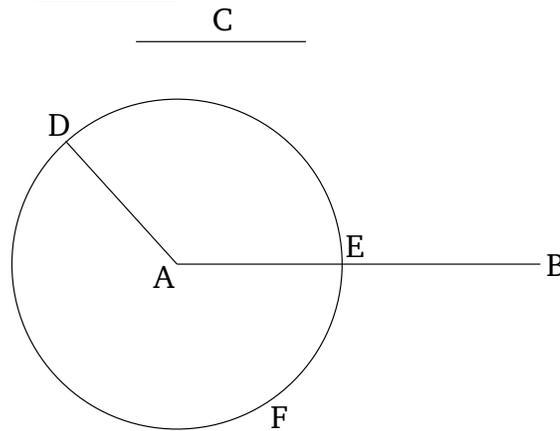
Proposition 3

For two given unequal straight-lines, to cut off from the greater a straight-line equal to the lesser.

Let AB and C be the two given unequal straight-lines, of which let the greater be AB . So it is required to cut off a straight-line equal to the lesser C from the greater AB .

Let the line AD , equal to the straight-line C , have been placed at point A [Prop. 1.2]. And let the circle DEF have been drawn with center A and radius AD [Post. 3].

And since point A is the center of circle DEF , AE is equal to AD [Def. 1.15]. But, C is also equal to AD . Thus, AE and C are each equal to AD . So AE is also equal to C [C.N. 1].



Thus, for two given unequal straight-lines, AB and C , the (straight-line) AE , equal to the lesser C , has been cut off from the greater AB . (Which is) the very thing it was required to do.