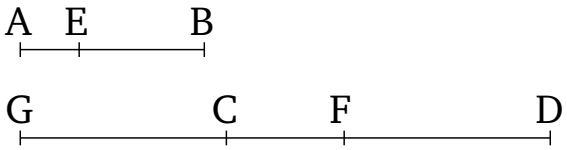
Book 7
Proposition 7

If a number is that part of a number that a (part) taken away (is) of a (part) taken away then the remainder will also be the same part of the remainder that the whole (is) of the whole.



For let a number AB be that part of a number CD that a (part) taken away AE (is) of a part taken away CF. I say that the remainder EB is also the same part of the remainder FD that the whole AB (is) of the whole CD.

For which(ever) part AE is of CF, let EB also be the same part of CG. And since which(ever) part AE is of CF, EB is also the same part of CG, thus which(ever) part AE is of CF, AB is also the same part of GF [Prop. 7.5]. And which(ever) part AE is of CF, AB is also assumed (to be) the same part of CD. Thus, also, which(ever) part AB is of GF, (AB) is also the same part of CD. Thus, GF is equal to CD. Let CF have been subtracted from both. Thus, the remainder GC is equal to the remainder FD. And since which(ever) part AE is of CF, EB [is] also the same part of GC, and GC (is) equal to FD, thus which(ever) part AE is of CF, EB is also the same part of FD. But, which(ever) part AE is of CF, AB is also the same part of CD. Thus, the remainder EB is also the same part of the remainder

FD that the whole AB (is) of the whole CD. (Which is) the very thing it was required to show.