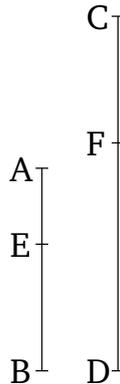


## Book 7

### Proposition 11

If as the whole (of a number) is to the whole (of another), so a (part) taken away (is) to a (part) taken away, then the remainder will also be to the remainder as the whole (is) to the whole.

Let the whole  $AB$  be to the whole  $CD$  as the (part) taken away  $AE$  (is) to the (part) taken away  $CF$ . I say that the remainder  $EB$  is to the remainder  $FD$  as the whole  $AB$  (is) to the whole  $CD$ .



(For) since as  $AB$  is to  $CD$ , so  $AE$  (is) to  $CF$ , thus which(ever) part, or parts,  $AB$  is of  $CD$ ,  $AE$  is also the same part, or the same parts, of  $CF$  [Def. 7.20]. Thus, the remainder  $EB$  is also the same part, or parts, of the remainder  $FD$  that  $AB$  (is) of  $CD$  [Props. 7.7, 7.8]. Thus, as  $EB$  is to  $FD$ , so (Which is) the very thing it was required to show.