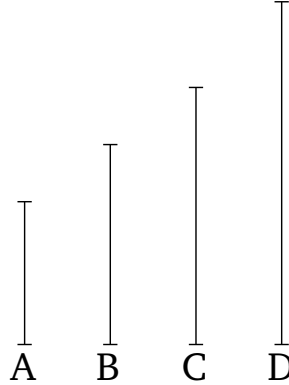


## Book 7

### Proposition 13

If four numbers are proportional then they will also be proportional alternately.



Let the four numbers  $A$ ,  $B$ ,  $C$ , and  $D$  be proportional, (such that) as  $A$  (is) to  $B$ , so  $C$  (is) to  $D$ . I say that they will also be proportional alternately, (such that) as  $A$  (is) to  $C$ , so  $B$  (is) to  $D$ .

For since as  $A$  is to  $B$ , so  $C$  (is) to  $D$ , thus which(ever) part, or parts,  $A$  is of  $B$ ,  $C$  is also the same part, or the same parts, of  $D$  [Def. 7.20]. Thus, alterately, which(ever) part, or parts,  $A$  is of  $C$ ,  $B$  is also the same part, or the same parts, of  $D$  [Props. 7.9, 7.10]. Thus, as  $A$  is to  $C$ , so  $B$  (is) to  $D$  [Def. 7.20]. (Which is) the very thing it was required to show.