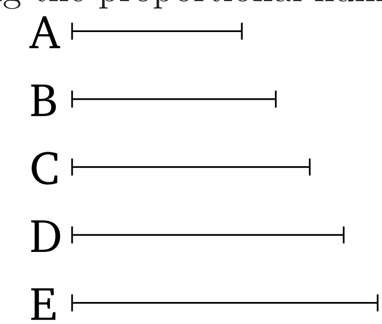
Book 9
Proposition 11

If any multitude whatsoever of numbers is continuously proportional, (starting) from a unit, then a lesser (number) measures a greater according to some existing (number) among the proportional numbers.



Let any multitude whatsoever of numbers, B, C, D, E, be continuously proportional, (starting) from the unit A. I say that, for B, C, D, E, the least (number), B, measures E according to some (one) of C, D.

For since as the unit A is to B, so D (is) to E, the unit A thus measures the number B the same number of times as D (measures) E. Thus, alternately, the unit A measures D the same number of times as B (measures) E [Prop. 7.15]. And the unit A measures D according to the units in it. Thus, B also measures E according to the units in D. Hence, the lesser (number) B measures the greater E according to some existing number among the proportional numbers (namely, D).

Corollary

And (it is) clear that what(ever relative) place the measuring (number) has from the unit, the (number) according to which it measures has the same (relative) place from the measured (number), in (the direction of the number) before it. (Which is) the very thing it was required to show.