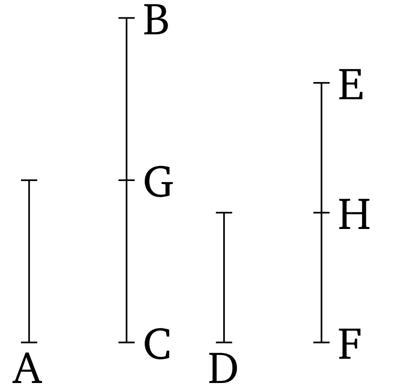
Book 7
Proposition 5

If a number is part of a number, and another (number) is the same part of another, then the sum (of the leading numbers) will also be the same part of the sum (of the following numbers) that one (number) is of another.



For let a number A be part of a [number] BC, and another (number) D (be) the same part of another (number) EF that A (is) of BC. I say that the sum A, D is also the same part of the sum BC, EF that A (is) of BC.

For since which(ever) part A is of BC, D is the same part of EF, thus as many numbers as are in BC equal to A, so many numbers are also in EF equal to D. Let BC have been divided into BG and GC, equal to A, and EF into EH and HF, equal to D. So the multitude of (divisions) BG, GC will be equal to the multitude of (divisions) EH, HF. And since BG is equal to A, and EH to D, thus BG, EH (is) also equal to A, D. So, for the same (reasons), GC, HF (is) also (equal) to A, D. Thus, as many numbers as [are] in BC equal to A, so many are also in BC, EF equal to A, D. Thus, as many times as BC is (divisible) by A, so many times is the sum BC, EF also (divisible) by the sum A, D. Thus, which(ever) part A is of BC, the sum A, D is also the same part of the sum BC, EF. (Which is) the very thing it was required to show.