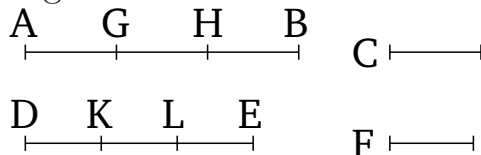


Book 5

Proposition 15

Parts have the same ratio as similar multiples, taken in corresponding order.



For let AB and DE be equal multiples of C and F (respectively). I say that as C is to F , so AB (is) to DE .

For since AB and DE are equal multiples of C and F (respectively), thus as many magnitudes as there are in AB equal to C , so many (are there) also in DE equal to F . Let AB have been divided into (magnitudes) AG , GH , HB , equal to C , and DE into (magnitudes) DK , KL , LE , equal to F . So, the number of (magnitudes) AG , GH , HB will equal the number of (magnitudes) DK , KL , LE . And since AG , GH , HB are equal to one another, and DK , KL , LE are also equal to one another, thus as AG is to DK , so GH (is) to KL , and HB to LE [Prop. 5.7]. And, thus (for proportional magnitudes), as one of the leading (magnitudes) will be to one of the following, so all of the leading (magnitudes will be) to all of the following [Prop. 5.12]. Thus, as AG is to DK , so AB (is) to DE . And AG is equal to C , and DK to F . Thus, as C is to F , so AB (is) to DE .

Thus, parts have the same ratio as similar multiples, taken in corresponding order. (Which is) the very thing it was required to show.