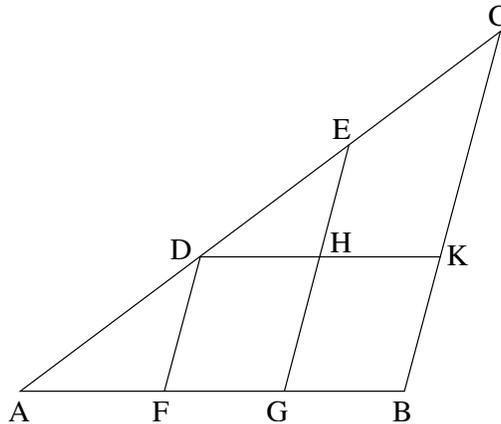


Book 6

Proposition 10

To cut a given uncut straight-line similarly to a given cut (straight-line).



Let AB be the given uncut straight-line, and AC a (straight-line) cut at points D and E , and let (AC) be laid down so as to encompass a random angle (with AB). And let CB have been joined. And let DF and EG have been drawn through (points) D and E (respectively), parallel to BC , and let DHK have been drawn through (point) D , parallel to AB [Prop. 1.31].

Thus, FH and HB are each parallelograms. Thus, DH (is) equal to FG , and HK to GB [Prop. 1.34]. And since the straight-line HE has been drawn parallel to one of the sides, KC , of triangle DKC , thus, proportionally, as CE is to ED , so KH (is) to HD [Prop. 6.2]. And KH (is) equal to BG , and HD to GF . Thus, as CE is to ED , so BG (is) to GF . Again, since FD has been drawn parallel to one of the sides, GE , of triangle AGE , thus, proportionally, as ED is to DA , so GF (is) to FA

[Prop. 6.2]. And it was also shown that as CE (is) to ED , so BG (is) to GF . Thus, as CE is to ED , so BG (is) to GF , and as ED (is) to DA , so GF (is) to FA .

Thus, the given uncut straight-line, AB , has been cut similarly to the given cut straight-line, AC . (Which is) the very thing it was required to do.