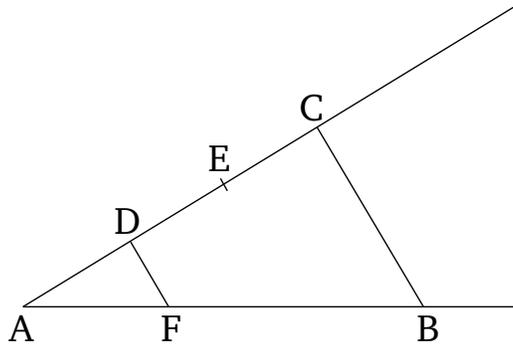


Book 6

Proposition 9

To cut off a prescribed part from a given straight-line.



Let AB be the given straight-line. So it is required to cut off a prescribed part from AB .

So let a third (part) have been prescribed. [And] let some straight-line AC have been drawn from (point) A , encompassing a random angle with AB . And let a random point D have been taken on AC . And let DE and EC be made equal to AD [Prop. 1.3]. And let BC have been joined. And let DF have been drawn through D parallel to it [Prop. 1.31].

Therefore, since FD has been drawn parallel to one of the sides, BC , of triangle ABC , then, proportionally, as CD is to DA , so BF (is) to FA [Prop. 6.2]. And CD (is) double DA . Thus, BF (is) also double FA . Thus, BA (is) triple AF .

Thus, the prescribed third part, AF , has been cut off from the given straight-line, AB . (Which is) the very thing it was required to do.