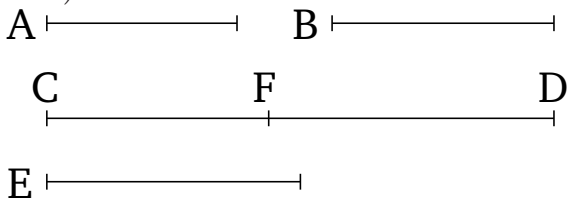
# Book 7
# Proposition 35

If two numbers (both) measure some number then the least (number) measured by them will also measure the same (number).




For let two numbers, $A$ and $B$, (both) measure some number $CD$, and (let) $E$ (be the) least (number measured by both $A$ and $B$). I say that $E$ also measures $CD$.

For if $E$ does not measure $CD$ then let $E$ leave $CF$ less than itself (in) measuring $DF$. And since $A$ and $B$ (both) measure $E$, and $E$ measures $DF$, $A$ and $B$ will thus also measure $DF$. And ($A$ and $B$) also measure the whole of $CD$. Thus, they will also measure the remainder $CF$, which is less than $E$. The very thing is impossible. Thus, $E$ cannot not measure $CD$. Thus, ($E$) measures ($CD$). (Which is) the very thing it was required to show.