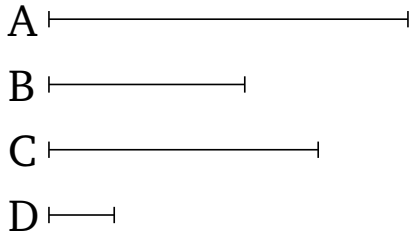
# Book 7
# Proposition 37

If a number is measured by some number then the (number) measured will have a part called the same as the measuring (number).




For let the number $A$ be measured by some number $B$. I say that $A$ has a part called the same as $B$.

For as many times as $B$ measures $A$, so many units let there be in $C$. Since $B$ measures $A$ according to the units in $C$, and the unit $D$ also measures $C$ according to the units in it, the unit $D$ thus measures the number $C$ as many times as $B$ (measures) $A$. Thus, alternately, the unit $D$ measures the number $B$ as many times as $C$ (measures) $A$ [Prop. 7.15]. Thus, which(ever) part the unit $D$ is of the number $B$, $C$ is also the same part of $A$. And the unit $D$ is a part of the number $B$ called the same as it (*i.e.*, a $B$th part). Thus, $C$ is also a part of $A$ called the same as $B$ (*i.e.*, $C$ is the $B$th part of $A$). Hence, $A$ has a part $C$ which is called the same as $B$ (*i.e.*, $A$ has a $B$th part). (Which is) the very thing it was required to show.