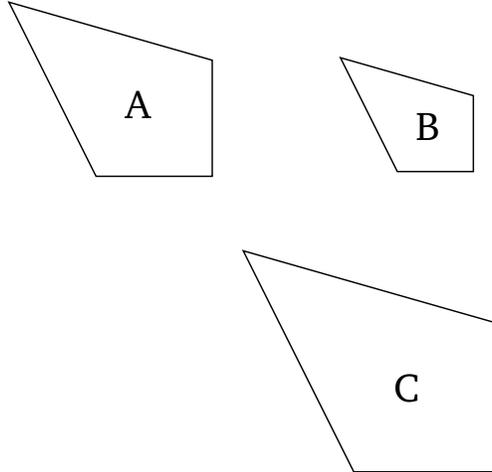


# Book 6

## Proposition 21

(Rectilinear figures) similar to the same rectilinear figure are also similar to one another.



Let each of the rectilinear figures  $A$  and  $B$  be similar to (the rectilinear figure)  $C$ . I say that  $A$  is also similar to  $B$ .

For since  $A$  is similar to  $C$ , ( $A$ ) is equiangular to ( $C$ ), and has the sides about the equal angles proportional [Def. 6.1]. Again, since  $B$  is similar to  $C$ , ( $B$ ) is equiangular to ( $C$ ), and has the sides about the equal angles proportional [Def. 6.1]. Thus,  $A$  and  $B$  are each equiangular to  $C$ , and have the sides about the equal angles proportional [hence,  $A$  is also equiangular to  $B$ , and has the sides about the equal angles proportional]. Thus,  $A$  is similar to  $B$  [Def. 6.1]. (Which is) the very thing it was required to show.