

# Book 8

## Proposition 26

Similar plane numbers have to one another the ratio which (some) square number (has) to a(nother) square number.



Let  $A$  and  $B$  be similar plane numbers. I say that  $A$  has to  $B$  the ratio which (some) square number (has) to a(nother) square number.

For since  $A$  and  $B$  are similar plane numbers, one number thus falls (between)  $A$  and  $B$  in mean proportion [Prop. 8.18]. Let it (so) fall, and let it be  $C$ . And let the least numbers,  $D$ ,  $E$ ,  $F$ , having the same ratio as  $A$ ,  $C$ ,  $B$  have been taken [Prop. 8.2]. The outermost of them,  $D$  and  $F$ , are thus square [Prop. 8.2 corr.]. And since as  $D$  is to  $F$ , so  $A$  (is) to  $B$ , and  $D$  and  $F$  are square,  $A$  thus has to  $B$  the ratio which (some) square number (has) to a(nother) square number. (Which is) the very thing it was required to show.