

## Book 8

### Proposition 22

If three numbers are continuously proportional, and the first is square, then the third will also be square.



Let  $A$ ,  $B$ ,  $C$  be three continuously proportional numbers, and let the first  $A$  be square. I say that the third  $C$  is also square.

For since one number,  $B$ , is in mean proportion to  $A$  and  $C$ ,  $A$  and  $C$  are thus similar plane (numbers) [Prop. 8.20]. And  $A$  is square. Thus,  $C$  is also square [Def. 7.21]. (Which is) the very thing it was required to show.