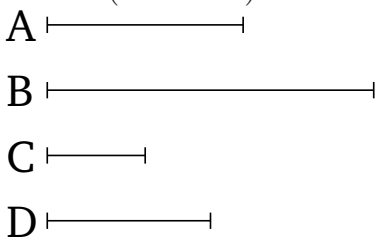
Book 9
Proposition 3

If a cube number makes some (number by) multiplying itself then the created (number) will be cube.



For let the cube number A make B (by) multiplying itself. I say that B is cube.

For let the side C of A have been taken. And let C make D by multiplying itself. So it is clear that C has made A (by) multiplying D. And since C has made D (by) multiplying itself, C thus measures D according to the units in it [Def. 7.15]. But, in fact, a unit also measures C according to the units in it [Def. 7.20]. Thus, as a unit is to C, so C (is) to D. Again, since C has made A (by) multiplying D, D thus measures A according to the units in C. And a unit also measures C according to the units in it. Thus, as a unit is to C, so D (is) to A. But, as a unit (is) to C, so C (is) to D. And thus as a unit (is) to C, so C (is) to D, and D to A. Thus, two numbers, C and D, have fallen (between) a unit and the number A in continued mean proportion. Again, since A has made B (by) multiplying itself, A thus measures B according to the units in it. And a unit also measures A according to the units in it. Thus, as a unit is to A, so A (is) to B. And two numbers have fallen (between) a unit and A in

mean proportion. Thus two numbers will also fall (between) A and B in mean proportion [Prop. 8.8]. And if two (numbers) fall (between) two numbers in mean proportion, and the first (number) is cube, then the second will also be cube [Prop. 8.23]. And A is cube. Thus, B is also cube. (Which is) the very thing it was required to show.