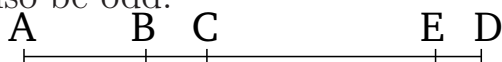# Book 9
Proposition 23

If any multitude whatsoever of odd numbers is added together, and the multitude of them is odd, then the whole will also be odd.

A   B   C   E   D

For let any multitude whatsoever of odd numbers, AB, BC, CD, lie together, and let the multitude of them be odd. I say that the whole, AD, is also odd.

For let the unit DE have been subtracted from CD. The remainder CE is thus even [Def. 7.7]. And CA is also even [Prop. 9.22]. Thus, the whole AE is also even [Prop. 9.21]. And DE is a unit. Thus, AD is odd [Def. 7.7]. (Which is) the very thing it was required to show.