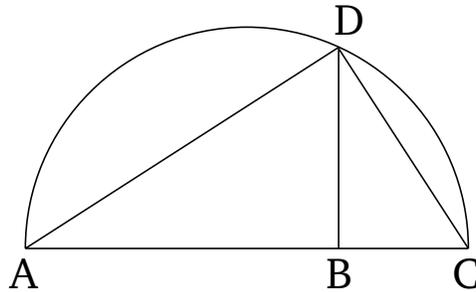


Book 6

Proposition 13

To find the (straight-line) in mean proportion to two given straight-lines.[†]



Let AB and BC be the two given straight-lines. So it is required to find the (straight-line) in mean proportion to AB and BC .

Let (AB and BC) be laid down straight-on (with respect to one another), and let the semi-circle ADC have been drawn on AC [Prop. 1.10]. And let BD have been drawn from (point) B , at right-angles to AC [Prop. 1.11]. And let AD and DC have been joined.

And since ADC is an angle in a semi-circle, it is a right-angle [Prop. 3.31]. And since, in the right-angled triangle ADC , the (straight-line) DB has been drawn from the right-angle perpendicular to the base, DB is thus the mean proportional to the pieces of the base, AB and BC [Prop. 6.8 corr.].

Thus, DB has been found (which is) in mean proportion to the two given straight-lines, AB and BC . (Which is) the very thing it was required to do.