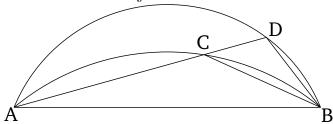
Book 3 Proposition 23

Two similar and unequal segments of circles cannot be constructed on the same side of the same straight-line.

For, if possible, let the two similar and unequal segments of circles, ACB and ADB, have been constructed on the same side of the same straight-line AB. And let ACD have been drawn through (the segments), and let CB and DB have been joined.



Therefore, since segment ACB is similar to segment ADB, and similar segments of circles are those accepting equal angles [Def. 3.11], angle ACB is thus equal to ADB, the external to the internal. The very thing is impossible [Prop. 1.16].

Thus, two similar and unequal segments of circles cannot be constructed on the same side of the same straightline.