



Proposition III.21

Angles in the same segment are equal.

Claim: $AC = BD$ and $AC \parallel BD$.

Proof:

Let F be the center of the circle. [prop III.1]

Draw radii BF, DF

$\angle BFD = 2\angle BAD$. [prop. III.20]

$\angle BFD = 2\angle BED$. [prop. III.20]

$\angle BAD = \angle BED$. [c.n 1]

QED