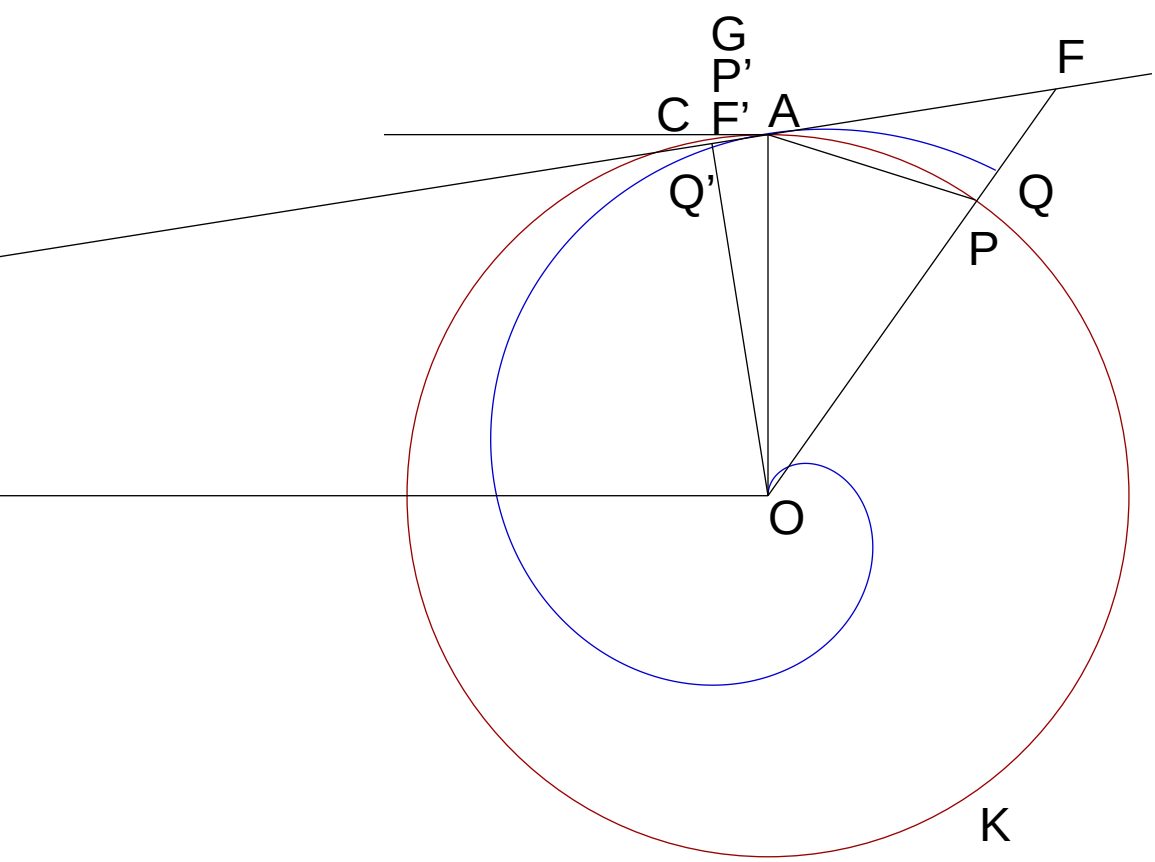
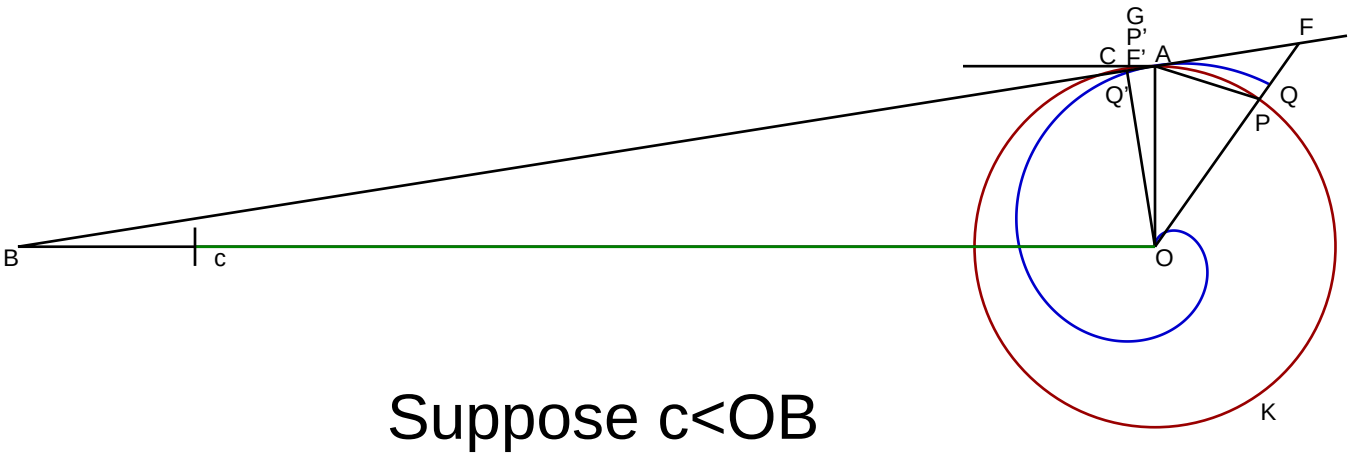
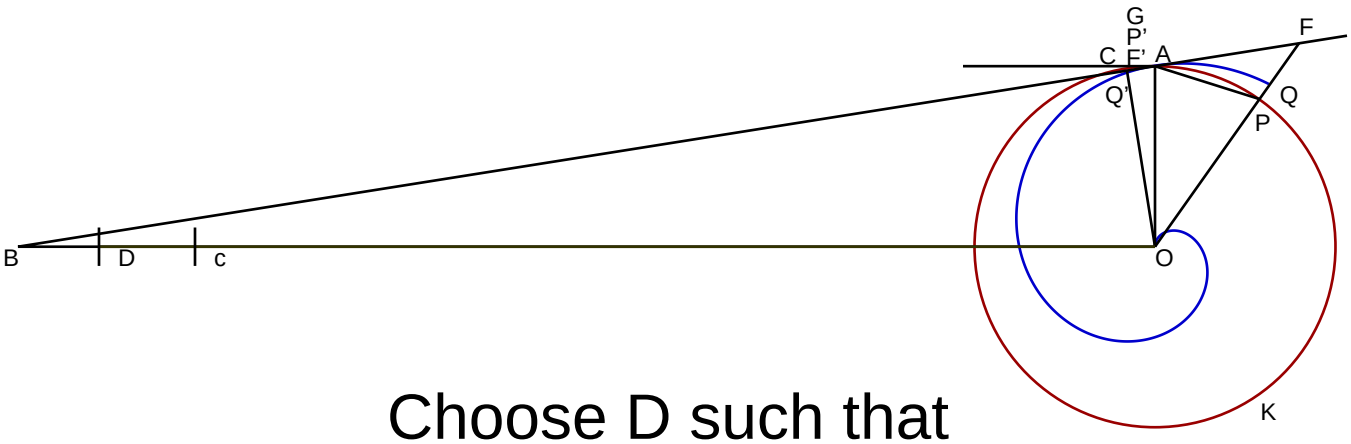

G
P’
F
C
F’
A
Q’
Q
P
O
K

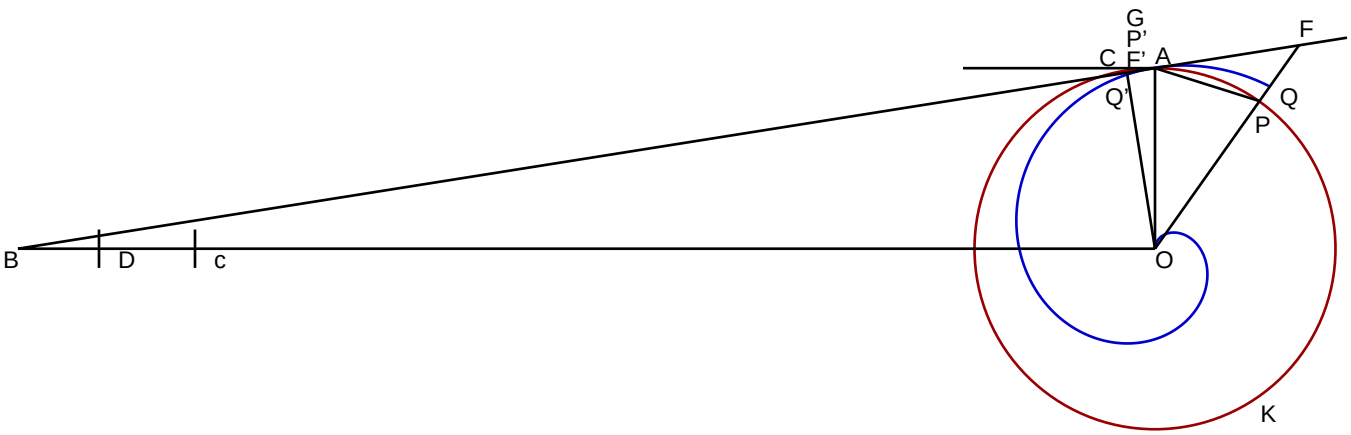


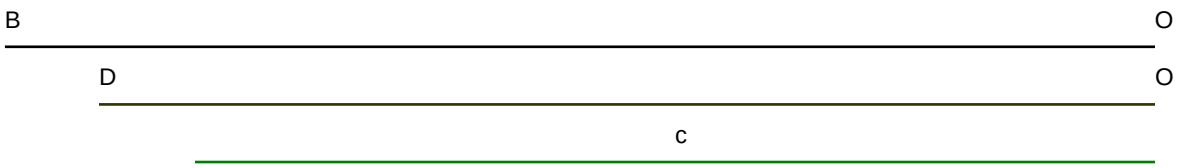
Suppose c<OB

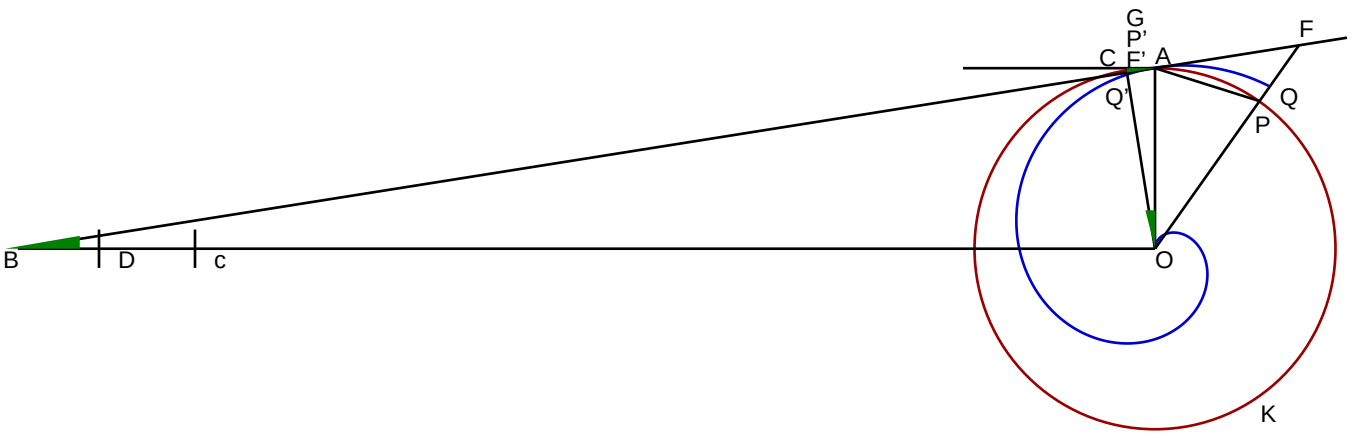


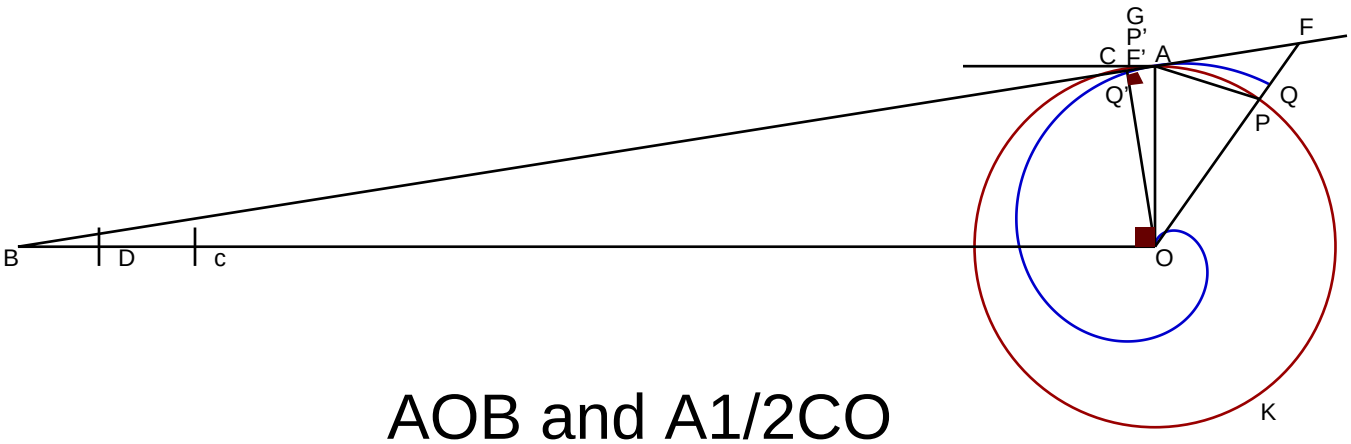
Choose D such that

$c < OD < OB$


G,
P,
F
C
F'
A
Q'
Q
P
B
D
c
O
K

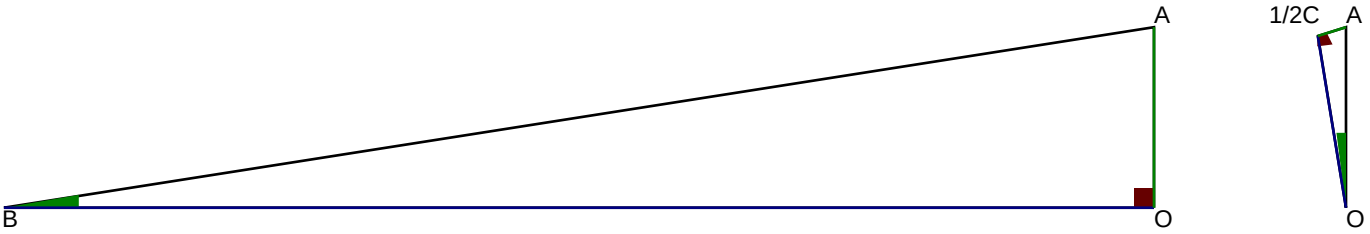

B
O
D
O
c


G,
P,
F
C
F'
A
Q'
Q
P
B
D
c
O
K



AOB and A1/2CO

are similar triangles



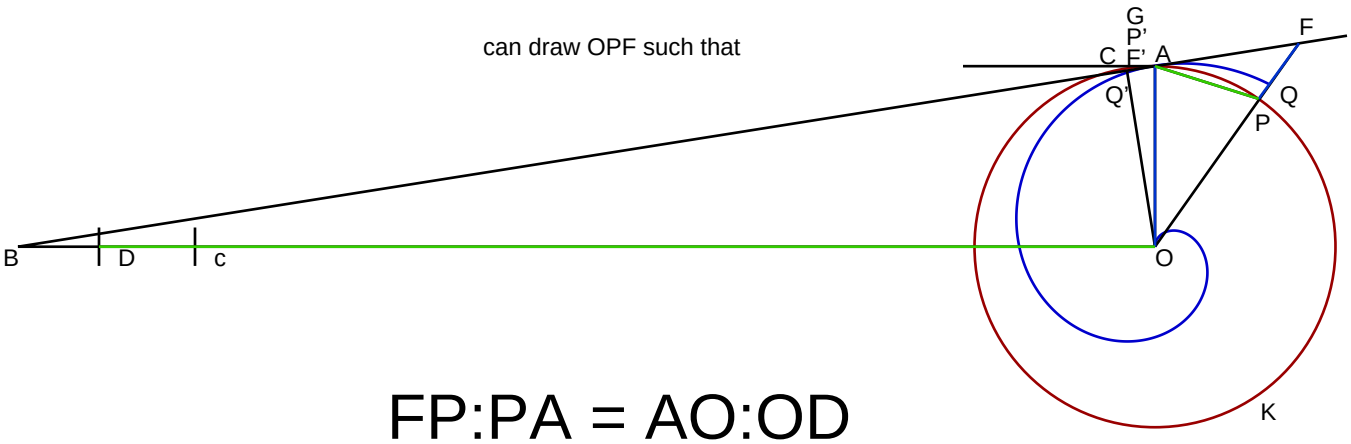
$$AO:OB = 1/2CA:1/2CO$$

$$AC < 2OA$$

(AC less than the diameter)

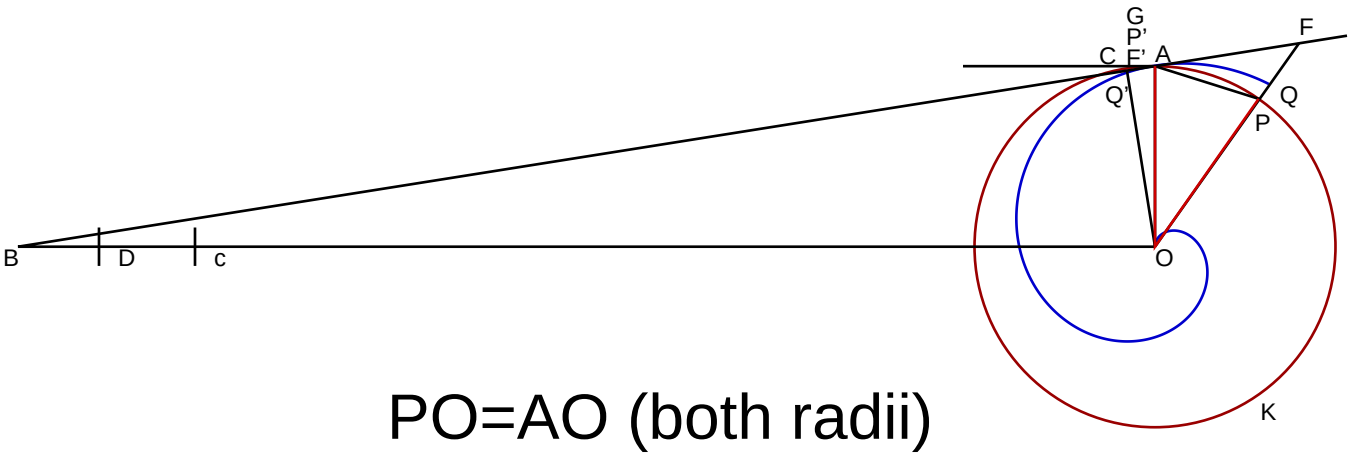
since triangles AOB and GAO are similar and AC < diameter

can draw OPF such that



FP:PA = AO:OD

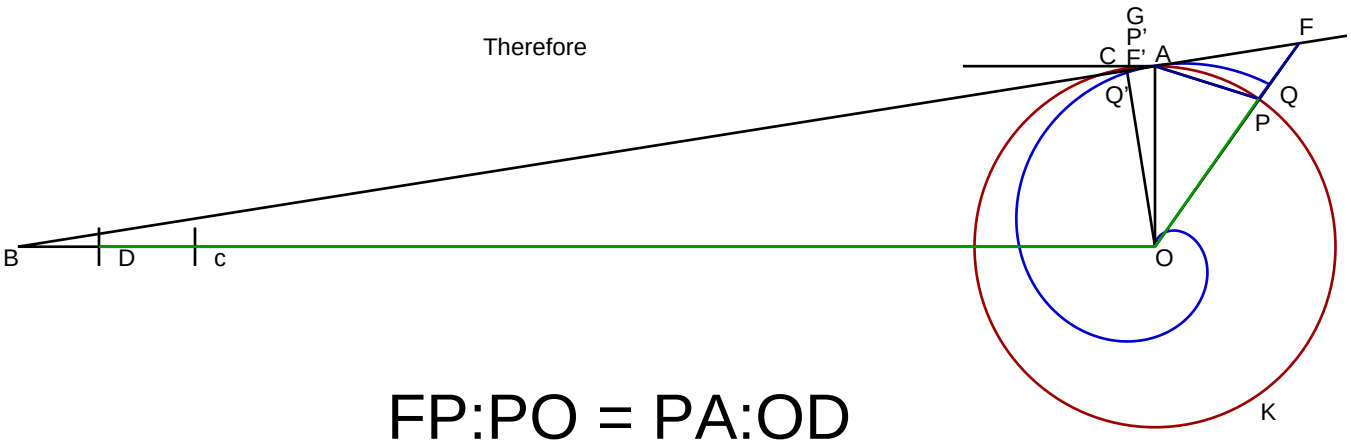
(by Prop. 7)



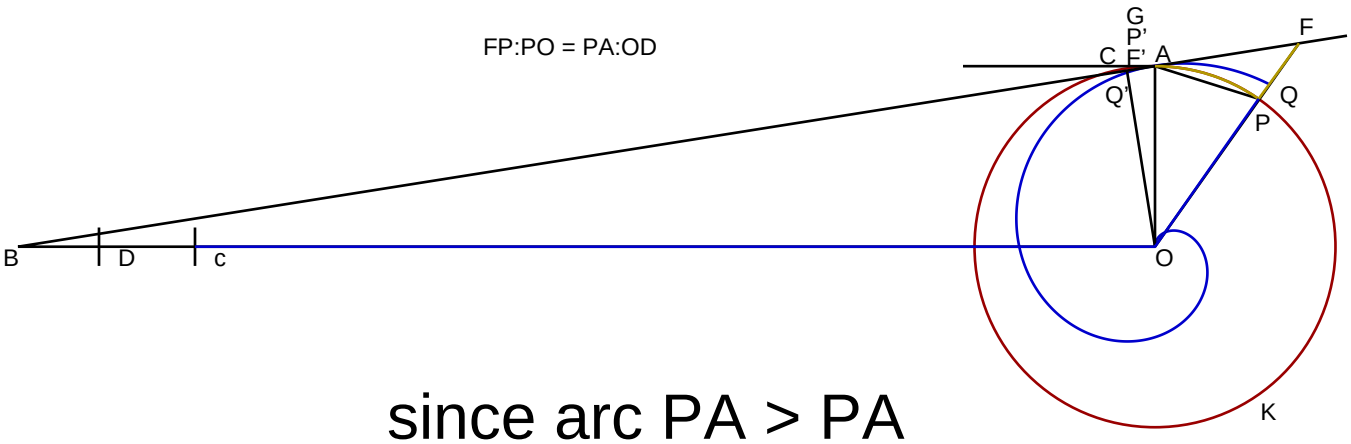
PO=AO (both radii)

FP:PA = AO:OD and AO = PO

Therefore



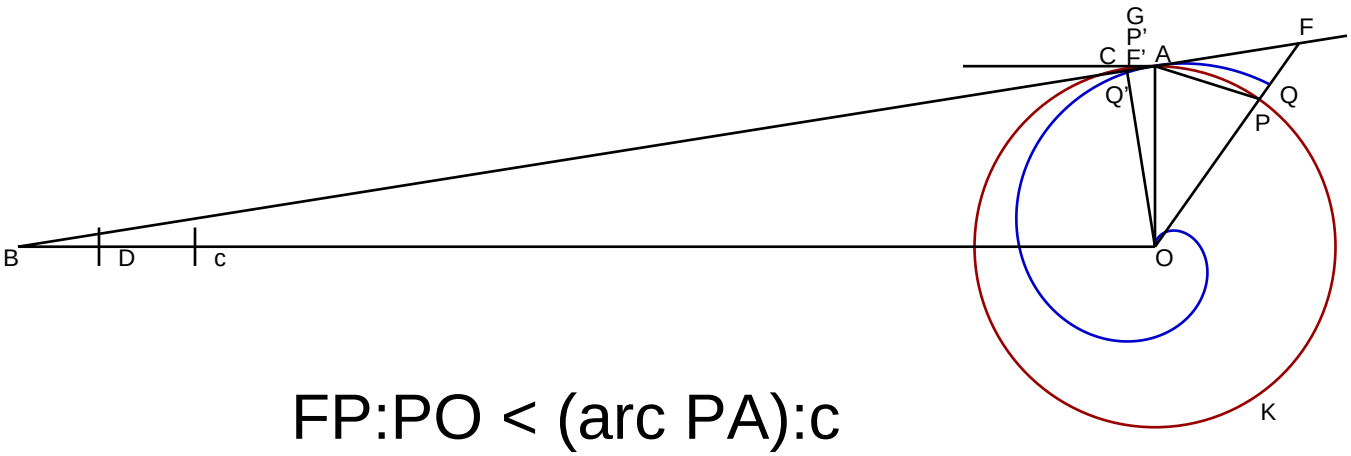
FP:PO = PA:OD



since arc PA > PA

and OD > c

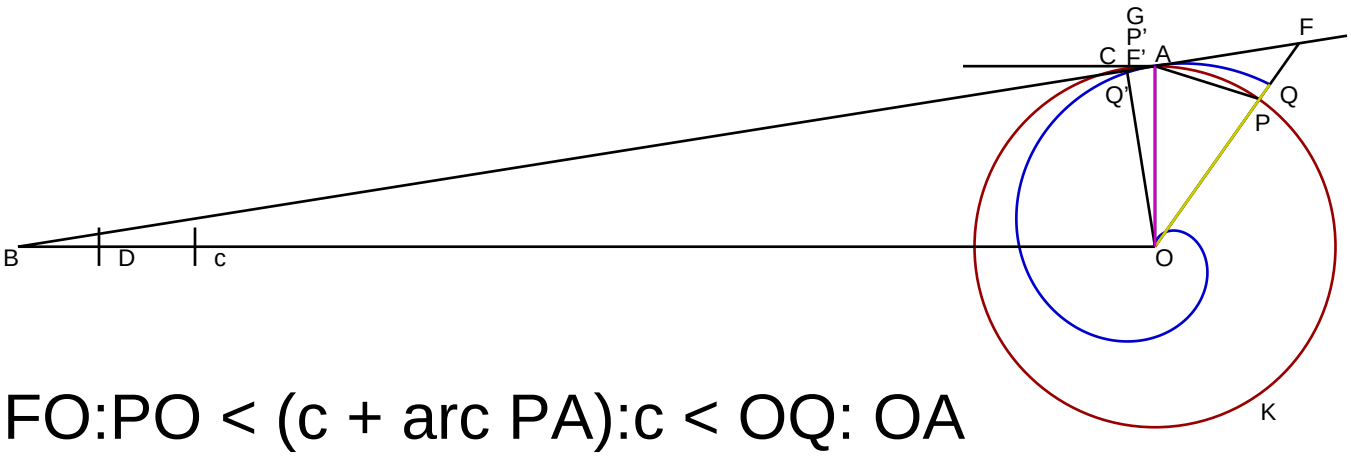
FP:PO < (arc PA):c



FP:PO < (arc PA):c

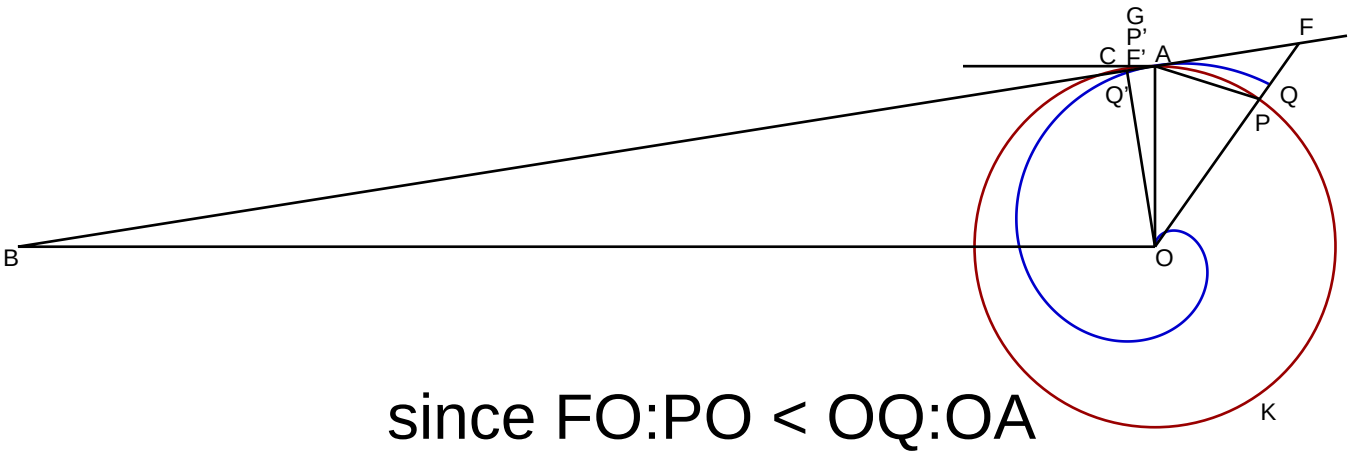
FP+PO=FO

FO:PO < (c + arc PA):c



FO:PO < (c + arc PA):c < OQ: OA

by Prop. 15



since FO:PO < OQ:OA

and OA=OP -> FO < OQ

IMPOSSIBLE!! -> OB NOT > c