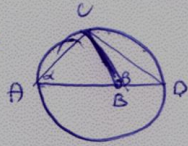


4.27 .ל



- \*  $\angle ACB = \beta - \alpha$
- \*  $\angle ACD = 90^\circ$
- \*  $\angle DCB = 90 - (\beta - \alpha)$
- \*  $\angle CDB = 90 - \alpha$

$\triangle CBD$  פולגון ישר  $\frac{CB}{\sin(90-\alpha)} = \frac{BD}{\sin(90-(\beta-\alpha))}$

$\triangle ABC$  פולגון ישר  $\frac{BC}{\sin \alpha} = \frac{AB}{\sin(\beta-\alpha)}$

הצגה של B מתבטלת 2 הצגות

$\frac{\frac{AB}{\sin(\beta-\alpha)}}{\frac{BD}{\sin(\beta-\alpha)}} = \frac{\frac{BC}{\sin \alpha}}{\frac{BC}{\sin \alpha}} \rightarrow \frac{AB \sin(\beta-\alpha)}{BD \sin(\beta-\alpha)} = \frac{\sin \alpha}{\sin \alpha} \rightarrow \frac{AB}{BD} = \frac{\cos \alpha \sin(\beta-\alpha)}{\sin \alpha \cos(\beta-\alpha)} = \frac{\tan(\beta-\alpha)}{\tan \alpha}$

$\frac{AB \sin(\beta-\alpha)}{BD \sin(\beta-\alpha)} = \frac{\sin \alpha}{\sin \alpha} \rightarrow \frac{AB}{BD} = \frac{\cos \alpha \sin(\beta-\alpha)}{\sin \alpha \cos(\beta-\alpha)} = \frac{\tan(\beta-\alpha)}{\tan \alpha}$

$AB + BD = 2R$  IP

$AB = 2R - BD$

$f = AB \cdot BD = (2R - BD)BD = 2RBD - BD^2$

$f' = 2R - 2BD = 0 \rightarrow BD = R$

$f'' = -2 < 0$    
  $\downarrow$    
 max

פולגון AB -> CB ישר היתר מרכז B כי  $\beta = 2\alpha$  (הצגה)   
  $\cdot$  (הצגה)  $\beta = 2\alpha$    
  $\cdot$  (הצגה)  $\beta = 2\alpha$    
  $\cdot$  (הצגה)  $\beta = 2\alpha$