

2.57
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$$\frac{r}{BE} = \tan \frac{\beta}{2} \rightarrow BE = \frac{r}{\tan \frac{\beta}{2}} \rightarrow BC = \frac{2r}{\tan \frac{\beta}{2}}$$

(אנחנו יודעים ש- $\angle B = \frac{\beta}{2}$ ו- $\angle C = 90 - \frac{\beta}{2}$ ולכן BD
הוא הנגד " " AE)

$$\frac{BD}{\sin \beta} = \frac{BC}{\sin(90 - \frac{1}{2}\beta)}$$

$\triangle BDC$ שיהיה גורם

$$BD = \frac{2r \sin \beta}{\sin(1.5\beta)} \tan \frac{\beta}{2} = \frac{4r \sin \frac{\beta}{2} \cos \frac{\beta}{2}}{\sin(1.5\beta)} \frac{\sin \frac{\beta}{2}}{\cos \frac{\beta}{2}} = \frac{4r \cos^2 \frac{\beta}{2}}{\sin(1.5\beta)}$$