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(1) $\alpha = \angle BAD = \angle PBC$ (משפט סימס) \Leftarrow
 $\alpha = \angle DBC = \angle DBA$ "
 $\alpha = \angle BAD = \angle DCA$ \Leftarrow

(2) $\angle ABC = \beta = \angle ACB$ (מש)

$\angle ABD = \beta - \alpha$

$\angle DCB = \beta - \alpha$

(3) $\triangle ABD \sim \triangle BCD$ \Leftarrow

(4) $\frac{AD}{BD} = \frac{BD}{DC}$ (משפט סימס)

$AD \cdot DC = BD^2$