

$$\begin{aligned}\sin(\alpha + \beta) \sin(\alpha - \beta) &= (\sin \alpha \cos \beta + \cos \alpha \sin \beta)(\sin \alpha \cos \beta - \cos \alpha \sin \beta) = \\ &= \sin^2 \alpha \cos^2 \beta - \cos^2 \alpha \sin^2 \beta = \sin^2 \alpha (1 - \sin^2 \beta) - (1 - \sin^2 \alpha) \sin^2 \beta = \\ &= \sin^2 \alpha - \sin^2 \beta,\end{aligned}$$

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$$\begin{aligned}\sin(\alpha + \beta) \sin(\alpha - \beta) - (\sin \alpha + \sin \beta)(\sin \alpha - \sin \beta) &= \\ &= \sin^2 \alpha - \sin^2 \beta - (\sin^2 \alpha - \sin^2 \beta) = 0.\end{aligned}$$

(Schudich Lajos, Eperjes.)