

es 322

$$\begin{cases} \sin(\alpha + \beta) = \sin\alpha \cos\beta + \cos\alpha \sin\beta \\ \sin(\alpha - \beta) = \sin\alpha \cos\beta - \cos\alpha \sin\beta \end{cases}$$

quindi l'espressione data diventa:

$$\frac{(\sin\alpha \cos\beta + \cos\alpha \sin\beta)(\sin\alpha \cos\beta - \cos\alpha \sin\beta)}{\cos\beta + \cos\alpha} = \frac{\sin^2\alpha \cos^2\beta - \cos^2\alpha \sin^2\beta}{\cos\beta + \cos\alpha}$$

$$\begin{cases} \sin^2\alpha = 1 - \cos^2\alpha \\ \sin^2\beta = 1 - \cos^2\beta \end{cases} \Rightarrow \frac{(1 - \cos^2\alpha)(\cos^2\beta) - \cos^2\alpha(1 - \cos^2\beta)}{\cos\beta + \cos\alpha} =$$

$$\frac{\cos^2\beta - \cancel{\cos^2\alpha \cos^2\beta} - \cos^2\alpha + \cancel{\cos^2\alpha \cos^2\beta}}{\cos\beta + \cos\alpha} =$$

$$\frac{\cos^2\beta - \cos^2\alpha}{\cos\beta + \cos\alpha} = \frac{(\cancel{\cos\beta + \cos\alpha})(\cos\beta - \cos\alpha)}{(\cancel{\cos\beta + \cos\alpha})} =$$

$$\boxed{\cos\beta - \cos\alpha}$$