

2.70
PS

$$\sin \frac{\alpha}{2} \cos \frac{\beta}{2} = \sin \left(\frac{\alpha + \beta + \pi}{2} \right) \cos \frac{\pi}{2}$$

$$\sin \frac{\alpha}{2} \cos \frac{\beta}{2} = \sin \frac{\pi}{2} \cos \left(\frac{180 - \alpha - \beta}{2} \right)$$

$$\sin \frac{\alpha}{2} \cos \frac{\beta}{2} = \frac{1}{2} \cos \left(90 - \left(\frac{\alpha + \beta}{2} \right) \right)$$

$$2 \sin \frac{\alpha}{2} \cos \frac{\beta}{2} = \sin \left(\frac{\alpha + \beta}{2} \right)$$

$$\sin \left(\frac{\alpha + \beta}{2} \right) + \sin \left(\frac{\alpha - \beta}{2} \right) = \sin \left(\frac{\alpha + \beta}{2} \right)$$

$$\sin \frac{\alpha - \beta}{2} = 0 \rightarrow \boxed{\alpha = \beta}$$

Erfindet man $k \neq 0 \rightarrow \alpha - \beta = \pi k$ $\frac{\alpha - \beta}{2} = \pi k$ $|| \cdot 2$