

2.55
25

$$\begin{aligned} \sin^2 \alpha + \sin^2 \beta + \sin^2 \gamma - 2 \cos \alpha \cos \beta \cos \gamma &= 2 \\ \sin^2 \alpha + \sin^2 \beta + \sin^2 (\alpha + \beta) + 2 \cos \alpha \cos \beta \cos (\alpha + \beta) &= \\ \sin^2 \alpha + \sin^2 \beta + \sin^2 (\alpha + \beta) + [\cos (\alpha + \beta) + \cos (\alpha - \beta)] \cos (\alpha + \beta) &= \\ \sin^2 \alpha + \sin^2 \beta + \underbrace{\sin^2 (\alpha + \beta) + \cos^2 (\alpha + \beta) + \cos (\alpha - \beta) \cos (\alpha + \beta)} &= \\ 1 + \sin^2 \alpha + \sin^2 \beta + \frac{1}{2} \cos 2\alpha + \frac{1}{2} \cos 2\beta &= \\ 1 + \sin^2 \alpha + \sin^2 \beta + \frac{1}{2} (1 - 2\sin^2 \alpha) + \frac{1}{2} (1 - 2\sin^2 \beta) &= 2 \end{aligned}$$