Zadatak 22. Ako je $\cos^2\alpha + \cos^2\beta = a$, koliko je $\cos(\alpha+\beta)\cdot\cos(\alpha-\beta)$?

Rješenje.

$$\cos^2\alpha + \cos^2\beta = \frac{1+\cos 2\alpha}{2} + \frac{1+\cos 2\beta}{2} = 1 + \frac{1}{2}(\cos 2\alpha + \cos 2\beta)$$

$$= 1 + \frac{1}{2}\cdot 2\cos\frac{2\alpha+2\beta}{2}\cos\frac{2\alpha-2\beta}{2} = \cos(\alpha+\beta)\cdot\cos(\alpha-\beta) + 1 = a.$$

Dakle, $\cos(\alpha+\beta)\cdot\cos(\alpha-\beta) = a - 1$.