Zadatak 16. Izračunaj vrijednost razlomka $\dfrac{2\sin 2\alpha + \sin 4\alpha}{2\sin 2\alpha - \sin 4\alpha}$ ako je $\cos\alpha = -\dfrac{1}{2}$.

Rješenje.

$$\frac{2\sin 2\alpha + \sin 4\alpha}{2\sin 2\alpha - \sin 4\alpha} = \frac{2\sin 2\alpha + 2\sin 2\alpha\cos 2\alpha}{2\sin 2\alpha - 2\sin 2\alpha\cos 2\alpha} = \frac{2\sin 2\alpha(1+\cos 2\alpha)}{2\sin 2\alpha(1-\cos 2\alpha)}$$

$$= \frac{1+\cos^2\alpha - \sin^2\alpha}{1-\cos^2\alpha+\sin^2\alpha} = \frac{2\cos^2\alpha}{2\sin^2\alpha} = \frac{\cos^2\alpha}{1-\cos^2\alpha} = \frac{\frac{1}{4}}{1-\frac{1}{4}} = \frac{1}{3}$$