

Zadatak 40. Ako je $f(x - \pi) = \sin x \cdot \cos x$, koliko je $f\left(\frac{\pi}{2} + \alpha\right) + f\left(\frac{\pi}{2} - \alpha\right)$?

Rješenje. $f(x - \pi) = \sin x \cos x,$
 $x - \pi = t \iff x = \pi + t;$

$$f(t) = \sin(\pi + t) \cos(\pi + t) = -\sin t(-\cos t) = \sin t \cos t = \frac{1}{2} \sin 2t;$$

$$\begin{aligned} f\left(\frac{\pi}{2} + \alpha\right) + f\left(\frac{\pi}{2} - \alpha\right) &= \frac{1}{2} \sin(\pi + 2\alpha) + \frac{1}{2} \sin(\pi - 2\alpha) \\ &= -\frac{1}{2} \sin 2\alpha + \frac{1}{2} \sin 2\alpha = 0. \end{aligned}$$