Zadatak 2. Provjeri da su sljedeće funkcije parne:

1) $f(x) = \sin^2 x$; **2)** $f(x) = \sin|x|$;

3) $\dfrac{\sin x - \operatorname{tg} x}{\sin x + \operatorname{ctg} x}$; **4)** $\dfrac{x - \sin x}{x + \sin x}$.

Rješenje. **1)** $f(-x) = \sin^2(-x) = (-\sin x)^2 = \sin^2 x = f(x)$ (parna);

2) $f(-x) = \sin|-x| = \sin|x| = f(x)$; (parna)

3) $f(-x) = \dfrac{\sin(-x) - \operatorname{tg}(-x)}{\sin(-x) + \operatorname{ctg}(-x)} = \dfrac{-\sin c - (-\operatorname{tg} x)}{-\sin x + (-\operatorname{tg} x)} = \dfrac{-\sin x + \operatorname{tg} x}{-\sin x - tgx} = \dfrac{-(\sin x - \operatorname{tg} x)}{-(\sin x + \operatorname{tg} x)} = \dfrac{\sin(-x) - \operatorname{tg}(-x)}{\sin(-x) + \operatorname{ctg}(-x)} = f(x)$; (parna)

4) $f(-x) = \dfrac{-x - \sin(-x)}{-x + \sin(-x)} = \dfrac{-x - (-\sin x)}{-x + (-\sin x)} = \dfrac{-x + \sin x}{-x - sinx} = \dfrac{-(x - \sin x)}{-(x + \sin x)} = \dfrac{x - \sin x}{x + \sin x} = f(x)$ (parna).