



**Zadatak 7.** Dokaži da je broj  $\pi$  period funkcije  $f$  :

1)  $f(x) = \frac{\sin 2x}{1 + \sin^2 x}$ ;                      2)  $f(x) = \operatorname{tg}^2 x - |\cos x|$ .

*Rješenje.*

1)  $f(x) = \frac{\sin 2x}{1 + \sin^2 x}$

$$f(x + \pi) = \frac{\sin(2x + 2\pi)}{1 + \sin^2(x + \pi)} = \frac{\sin 2x}{1 + \sin^2 x} = f(x);$$

2)  $f(x) = \operatorname{tg}^2 x - |\cos x|$

$$f(x + \pi) = \operatorname{tg}^2(x + \pi) - |\cos(x + \pi)| = \operatorname{tg}^2 x - |-\cos x| = \operatorname{tg}^2 x - |\cos x| = f(x).$$