

**Zadatak 8.** Dokaži da je broj  $2\pi$  period funkcije  $f$  :

1)  $f(x) = \frac{\cos x}{4 + \sin^2 x}$ ;                      2)  $f(x) = \cos 2x + \operatorname{tg} \frac{x}{2}$ .

**Rješenje.**

1)  $f(x) = \frac{\cos x}{4 + \sin^2 x}$

$$f(x + 2\pi) = \frac{\cos(x + 2\pi)}{4 + \sin^2(x + 2\pi)} = \frac{\cos x}{4 + \sin^2 x} = f(x);$$

2)  $f(x) = \cos 2x + \operatorname{tg} \frac{x}{2}$

$$f(x + 2\pi) = \cos(2x + 4\pi) + \operatorname{tg}\left(\frac{x}{2} + \pi\right) = \cos 2x + \operatorname{tg} \frac{x}{2} = f(x).$$