

Zadatak 17. Ako je $f(x) = \cos\left(\frac{\pi}{3}x\right)$, $g(x) = -\frac{1}{2}x - 1$, izračunaj $(f \circ g)(13)$ i $(g \circ f)(13)$.

Rješenje. $f(x) = \cos\left(\frac{\pi}{3}x\right)$, $g(x) = -\frac{1}{2}x - 1$;

$$(f \circ g)(13) = \cos\left[\frac{\pi}{3}\left(-\frac{1}{2} \cdot 13 - 1\right)\right] = \cos\left(-\frac{15}{6}\pi\right) = \cos\frac{3\pi}{6} = \cos\frac{\pi}{2} = 0;$$

$$(g \circ f)(13) = -\frac{1}{2} \cdot \cos\left(\frac{\pi}{3} \cdot 13\right) - 1 = -\frac{1}{2} \cdot \cos\frac{\pi}{3} - 1 = -\frac{1}{4} - 1 = -\frac{5}{4}.$$