



**Zadatak 12.** Ako je  $f(x) = \sin \frac{x}{12} \cdot \cos \frac{x}{12}$ ,  $g(x) = \log_{\sqrt{2}} x$ , koliko je  $(g \circ f)(17\pi)$ ?

**Rješenje.**  $f(x) = \sin \frac{x}{12} \cdot \cos \frac{x}{12} = \frac{1}{2} \sin \frac{x}{6}$ ;

$$g(x) = \log_{\sqrt{2}} x = 2 \log_2 x;$$

$$\begin{aligned}(g \circ f)(17\pi) &= 2 \log_2 \left( \frac{1}{2} \sin \frac{17\pi}{6} \right) = 2 \log_2 \left( \frac{1}{2} \sin \frac{5\pi}{6} \right) \\ &= 2 \log_2 \left( \frac{1}{2} \cdot \frac{1}{2} \right) = 2 \log_2 \frac{1}{4} = -4.\end{aligned}$$