Zadatak 2. Da li funkcija $f(x) = \sin x \cdot \sin\left(\frac{\pi}{3} - x\right)$ u $x = \frac{\pi}{2}$ raste ili pada?

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

$f'\left(\frac{\pi}{2}\right) = \sin\left(\frac{\pi}{3} - 2 \cdot \frac{\pi}{2}\right) = \sin\left(\frac{\pi}{3} - \pi\right) = \sin\left(-\frac{2\pi}{3}\right) = -\sin\left(\frac{2\pi}{3}\right) =$

$-\sin\frac{\pi}{3} = -\frac{\sqrt{3}}{2} < 0$. Funkcija f u $x = \frac{\pi}{2}$ pada.