**Zadatak 4.** Izračunaj:

**1)** $\sin 15^\circ$; **2)** $\sin 255^\circ$; **3)** $\sin 105^\circ$.

***Rješenje.*** **1)** $\sin 15^\circ = \sin(45^\circ - 30^\circ) = \sin 45^\circ \cos 30^\circ - \cos 45^\circ \sin 30^\circ = \frac{\sqrt{2}}{2} \cdot \frac{\sqrt{3}}{2} - \frac{\sqrt{2}}{2} \cdot \frac{1}{2} = \frac{\sqrt{2}}{4}(\sqrt{3} - 1)$;

**2)** $\sin 255^\circ = \sin(225^\circ + 30^\circ) = \sin 225^\circ \cos 30^\circ + \cos 225^\circ \sin 30^\circ = -\frac{\sqrt{2}}{2} \cdot \cdot \frac{\sqrt{3}}{2} + \left(-\frac{\sqrt{2}}{2}\right) \cdot \frac{1}{2} = -\frac{\sqrt{2}}{4}(\sqrt{3} + 1)$;

**3)** $\sin 105^\circ = \sin(60^\circ + 45^\circ) = \sin 60^\circ \cos 45^\circ + \cos 60^\circ \sin 45^\circ = \frac{\sqrt{3}}{2} \cdot \frac{\sqrt{2}}{2} + \frac{1}{2} \cdot \frac{\sqrt{2}}{2} = \frac{\sqrt{2}}{4}(\sqrt{3} + 1)$.