Zadatak 15. Ako je $\cos\left(\frac{\pi}{4}+x\right)=-\frac{\sqrt{2}}{3}$, $\pi<x<\frac{3\pi}{2}$, izračunaj $\cos x$.

Rješenje. $\pi<x<\frac{3\pi}{2} \Longrightarrow \sin x,\ \cos x<0,\ \sin\left(\frac{\pi}{4}+x\right)<0$

$$\sin\left(\frac{\pi}{4}+x\right)=-\sqrt{1-\sin^2\left(\frac{\pi}{4}+x\right)}=-\sqrt{1-\frac{2}{9}}=-\frac{\sqrt{7}}{3}$$

$$\cos\left(\frac{\pi}{4}+x\right)=\cos\frac{\pi}{4}\cos x-\sin\frac{\pi}{4}\sin x=-\frac{\sqrt{2}}{3}$$

$$\sin\left(\frac{\pi}{4}+x\right)=\sin\frac{\pi}{4}\cos x+\cos\frac{\pi}{4}\sin x=-\frac{\sqrt{7}}{3}$$

$$\left.\begin{aligned}\frac{\sqrt{2}}{2}\cos x-\frac{\sqrt{2}}{2}\sin x&=-\frac{\sqrt{2}}{3}\\ \frac{\sqrt{2}}{2}\cos x+\frac{\sqrt{2}}{2}\sin x&=-\frac{\sqrt{7}}{3}\end{aligned}\right\}+$$

$$\sqrt{2}\cos x=\frac{-\sqrt{2}-\sqrt{7}}{3} \qquad /:\sqrt{2}$$

$$\cos x=\frac{-\sqrt{2}-\sqrt{7}}{3\sqrt{2}}=-\frac{\sqrt{2}+\sqrt{7}}{3\sqrt{2}}$$