② Одредити тренутне вредности струја:

а) $\underline{I}_1 = (3+j3)\,[A]$; б) $\underline{I}_2 = 10\,[A]$; в) $\underline{I}_3 = j3\,[A]$

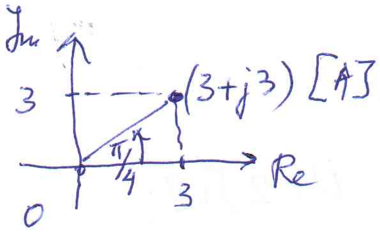
Решење:

$$\underline{I} = Re\{\underline{I}\} + j\,Im\{\underline{I}\}$$

- Ефективна вредност (модуо) је: $I = \sqrt{(Re\{\underline{I}\})^2 + (Im\{\underline{I}\})^2}$

- Почетна фаза (аргумент) је: $\psi = arctg \dfrac{Im\{\underline{I}\}}{Re\{\underline{I}\}}$

а)



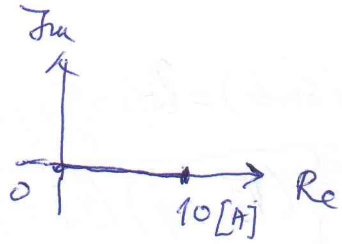
$$I_1 = \sqrt{3^2+3^2}\,[A] = 3\sqrt{2}\,[A]$$

$$\psi_1 = arctg\frac{3}{3} = \frac{\pi}{4}$$

$$i_1(t) = 3\sqrt{2}\sqrt{2}\cdot \sin(100\pi t + \frac{\pi}{4})\,[A] = 6\sin(\omega t + \frac{\pi}{4})\,[A]$$

(нпр. $\omega = 100\pi$) обично је $100\pi = \omega$

б)

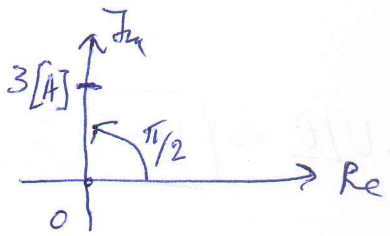


$$I_2 = 10\,[A]$$

$$\psi_2 = arctg\frac{0A}{10A} = arctg\frac{0}{10} = 0$$

$$i_2(t) = 10\sqrt{2}\sin(\omega t)\,[A]$$

в)



$$I_3 = 3\,[A]$$

$$\psi_3 = \frac{\pi}{2}$$

$$i_3(t) = 3\sqrt{2}\sin(\omega t + \frac{\pi}{2})\,[A]$$