CHAPITRE II : NOMBRES COMPLEXES

Correction

On calcule $|a| = \sqrt{(-4)^2 + 4^2} = \sqrt{32} = 4\sqrt{2}$. On peut alors réécrire

$$a = 4\sqrt{2}\left(-\frac{\sqrt{2}}{2} + i\frac{\sqrt{2}}{2}\right) = 4\sqrt{2}\left(\cos\frac{3\pi}{4} + i\sin\frac{3\pi}{4}\right) = 4\sqrt{2}e^{\frac{3i\pi}{4}}.$$

On a

$$b = \frac{(1+i\sqrt{3})(\sqrt{3}-i)}{(\sqrt{3}+i)(\sqrt{3}-i)} = \frac{2\sqrt{3}+2i}{4} = \frac{\sqrt{3}}{2} + \frac{1}{2}i = \cos\frac{\pi}{6} + i\sin\frac{\pi}{6} = e^{i\frac{\pi}{6}}.$$