Problem 1.23 Find the instantaneous time sinusoidal functions corresponding to the following phasors:

(d) $\tilde{I} = -3 + j2$ (A),

Solution:

(d)

$$\widetilde{I} = -3 + j2 = 3.61\, e^{j146.31^\circ},$$
$$i(t) = \Re\mathfrak{e}\{3.61\, e^{j146.31^\circ} e^{j\omega t}\} = 3.61\cos(\omega t + 146.31^\circ)\ \text{A}.$$