

PROBLEM:

Define $x(t)$ as

$$x(t) = 2\sqrt{2} \cos(2.5\pi t - 3\pi/4) + 4 \cos(2.5\pi(t + 5))$$

- (a) Express $x(t)$ in the form $x(t) = A \cos(\omega_0 t + \phi)$ by finding the numerical values of A , ϕ , and ω_0 (give the correct units).

$$A =$$

$$\phi =$$

$$\omega_0 =$$

- (b) Make two complex plane plots to illustrate how complex amplitudes (phasors) were used to solve part (a). On the first plot, show the two complex amplitudes that are to be added; on the second plot, show your solution as a vector and the addition of the two complex amplitudes as vectors (head-to-tail).