

## PROBLEM:

Define  $x(t)$  as

$$x(t) = 2 \cos(2.5\pi t - \pi/3) + 2 \cos(2.5\pi(t + 1)) + 2 \cos(2.5\pi t + 4\pi/3)$$

- (a) Express  $x(t)$  in the form  $x(t) = A \cos(\omega_0 t + \phi)$  by finding the numerical values of  $A$  and  $\phi$ , as well as  $\omega_0$ .
- (b) Make two complex plane plots to illustrate how complex amplitudes (phasors) were used to solve part (a). On the first plot, show the three complex amplitudes being added; on the second plot, show your solution as a vector and the addition of the three complex amplitudes as vectors (head-to-tail).