## PROBLEM:

Define $x(t)$ as

$$x(t) = 4\cos(\omega_0 t - \pi/4) + 2\sin(\omega_0 t)$$

(a) Express $x(t)$ in the form $x(t) = A\cos(\omega_0 t + \phi)$

(b) Assume that $\omega_0 = 0.4\pi$. Make a plot of $x(t)$ over the range $-5 \le t \le 10$. How many periods are included in the plot?

(c) Find a complex-valued signal $z(t)$ such that $x(t) = \Re e\{z(t)\}$.