PROBLEM:

Define $x(t)$ as

$$x(t) = \Re e\left\{2e^{j2\pi/3}e^{j2\pi t} + \sqrt{6}e^{j2\pi(t-0.375)}\right\} = \Re e\left\{Xe^{j2\pi t}\right\}$$

(a) Use phasor addition to express $x(t)$ in the form $x(t) = A\cos(\omega_0 t + \phi)$ by finding the numerical values of A and ϕ, as well as ω_0.

(b) Fill in the MATLAB statements that will compute the complex phasor X from which the numerical values of A and ϕ can be computed.

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X =  _____________________________________________
A =  _____________________________________________
phi = ____________________________________________
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(c) Make two complex plane plots to illustrate how complex amplitudes (phasors) were used to solve part (a). On the first plot, show only the two complex amplitudes (phasors) that were added to solve part (a); on the second plot, show your solution as a vector and the addition of the two complex amplitudes as vectors (head-to-tail). *Use appropriate scale on the grid below.*