PROBLEM:

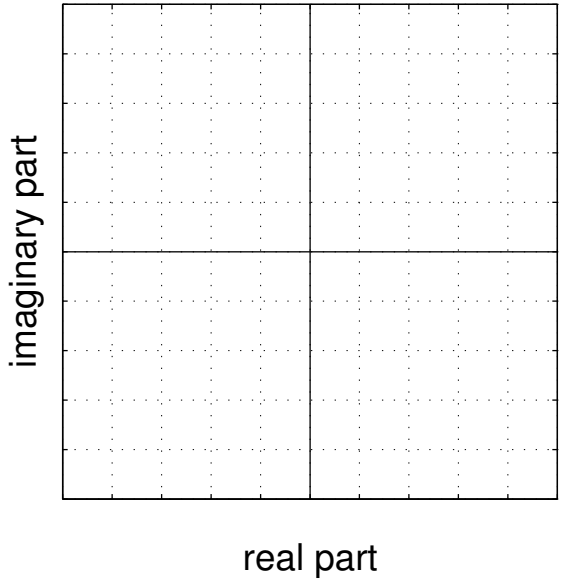
Define $x(t)$ as

$$x(t) = 3\sqrt{3}\cos(10\pi t - \pi/3) + 3\cos(10\pi(t + 0.05))$$

(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) 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 being added; on the second plot, show your solution as a vector and the addition of the two complex amplitudes as vectors (head-to-tail).

Two vectors here.



Head-to-tail plot here.