PROBLEM:

Simplify the following and give the answer as a single sinusoid: $x(t) = A\cos(\omega t + \phi)$. Draw the vector diagram of the complex amplitudes (phasors) to show how you obtained the answer.

(a) $x_a(t) = 2\cos(222\pi t) - \sin(222\pi t)$

(b) $x_b(t) = 7\cos(377t + 3\pi/4) + 7\cos(377t + \pi/4)$