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) $x_a(t) = 2\cos(333\pi t) - \sin(333\pi t)$

(b) $x_b(t) = 10\cos(245t + 3\pi/4) + 10\cos(245t + \pi/2)$

(c) $x_c(t) = \cos(41t + 17\pi) + \sqrt{2}\cos(41t + \pi/4) + \sqrt{2}\cos(41t - \pi/4)$