PROBLEM:

Simplify the following and give the answer as a single sinusoid.

(a) $x_a(t) = \sqrt{2}\cos(7\pi t - 3\pi/4) + \cos(7\pi t + \pi/2)$

(b) $x_b(t) = \cos(33\pi t + 3\pi/2) + \sqrt{3}\cos(33\pi t + 6\pi)$

(c) $x_c(t) = \cos(\pi t + 3\pi/2) + \cos(\pi t + 5\pi/6) + \cos(\pi t + \pi/6)$