Chapter 9, Solution 4.

Design a problem to help other students to better understand sinusoids.

Although there are many ways to work this problem, this is an example based on the same kind of problem asked in the third edition.

Problem

(a) Express $v = 8\cos(7t + 15°)$ in sine form.

(b) Convert $i = -10\sin(3t - 85°)$ to cosine form.

Solution

(a) $v = 8\cos(7t + 15°) = 8\sin(7t + 15° + 90°) =$ **$8\sin(7t + 105°)$**

(b) $i = -10\sin(3t - 85°) = 10\cos(3t - 85° + 90°) =$ **$10\cos(3t + 5°)$**