

Homework Problem #007

- a. Convert $g(t) = B \sin(\omega t - 37^\circ)$ to the form $g(t) = B \cos(\omega t + \phi)$, where ϕ is in radians. (Evaluate ϕ .)
- b. Express $v(t) = \sqrt{2} \cos(\omega t + 45^\circ)$ in the form $v(t) = V_1 \cos \omega t + V_2 \sin \omega t$. (Find the values of V_1 and V_2 .)
- c. A sinusoidal voltage $v(t)$ is $160 \angle 37^\circ$ V in phasor form. If the frequency is 60 Hz, determine the value of $v(t)$ when $t = 34$ ms.