

EE 3340

**Homework Problem #006**

(a) Convert  $f(t) = 10\sin(2\pi t - 60^\circ)$  to the form  $f(t) = A\cos(\omega t + \theta)$ , where  $\theta$  is in radians.

(b) Convert  $g(t) = 3\sin(377t + 45^\circ)$  to the form  $f(t) = B\cos(\omega t) + C\sin(\omega t)$ .

(c) A signal whose frequency is 60 Hz is given in polar (or phasor) form as  $\mathbf{H} = 20\angle 40^\circ$ . Determine the corresponding time-domain representation,  $h(t)$ , for this signal.