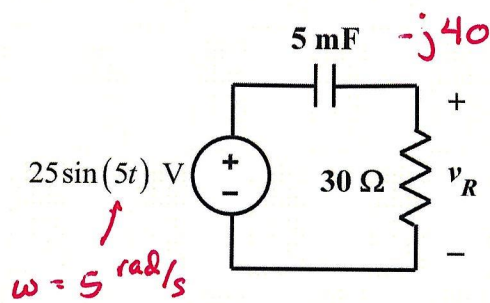


EE 3340

Homework Problem #018

Use phasor analysis to determine the steady-state AC part of v_R . Express your result in the time domain, with the phase angle expressed in degrees.



$$V_R = \frac{30}{30 - j40} \cdot 25 \angle -90^\circ$$

$$= \frac{30 \angle 0^\circ}{50 \angle -53.1^\circ} \cdot 25 \angle -90^\circ$$

$$= 15 \angle -36.9^\circ$$

$$v_{R,ss} = 15 \cos(5t - 36.9^\circ) \text{ V}$$