

HW #5 Solution

3.5

$$10C200 \Rightarrow Z_{m1} = \frac{200}{0.1 \times 100} = 20 \Omega$$

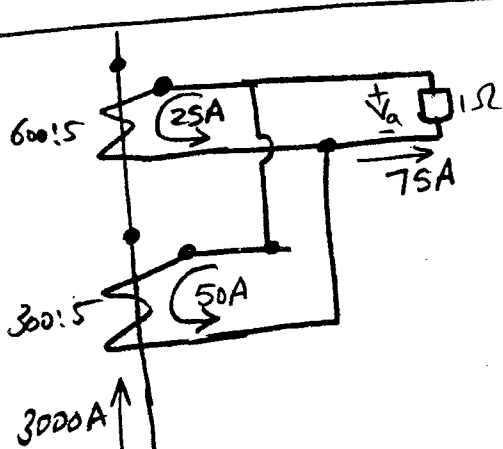
$$10C400 \Rightarrow Z_{m2} = \frac{400}{0.1 \times 100} = 40 \Omega$$

$$Z_{meq} = \frac{20 \times 40}{60} = 13.33 \Omega$$

$$V = 0.1 \times 100 \times 13.33 = 133.3 \text{ volt}$$

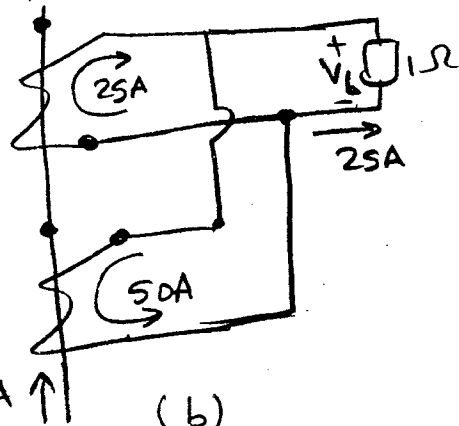
Here Eq. CT is 10C133.3

3.6



(a)

$$V_a = -75 \text{ V}$$



(b)

$$V_b = -25 \text{ V}$$

3.12

$$4 = \frac{138}{\sqrt{3}} * \frac{0.005}{0.005 + C_2}$$

$$C_2 = 0.0946 \mu\text{F}$$

$$L = \frac{1}{(2\pi \times 60)^2 (0.005 + 0.0946) \times 10^{-6}}$$

$$= 70.641 \text{ H.}$$

