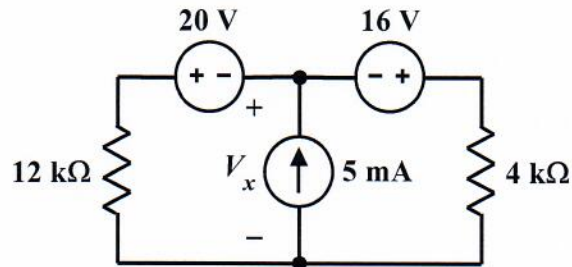
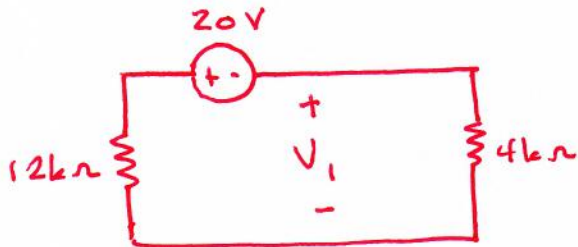


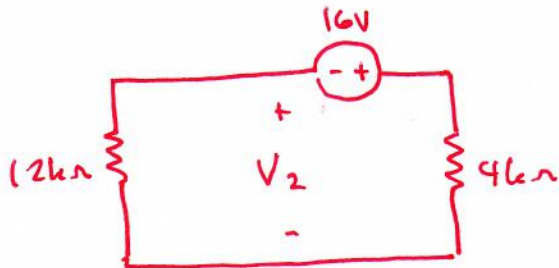
EE/EET 2240
Homework Problem #021



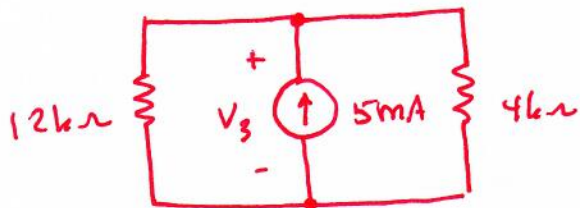
Use the superposition method to determine the value of V_x .



$$V_1 = - \frac{4k\Omega}{4k\Omega + 12k\Omega} \cdot 20V = -5V$$



$$V_2 = - \frac{12k\Omega}{4k\Omega + 12k\Omega} \cdot 16V = -12V$$



$$V_3 = \frac{4k\Omega \cdot 12k\Omega}{4k\Omega + 12k\Omega} \cdot 5mA = 15V$$

$$\begin{aligned} V_x &= V_1 + V_2 + V_3 \\ &= -5V - 12V + 15V \\ &= -2V \end{aligned}$$