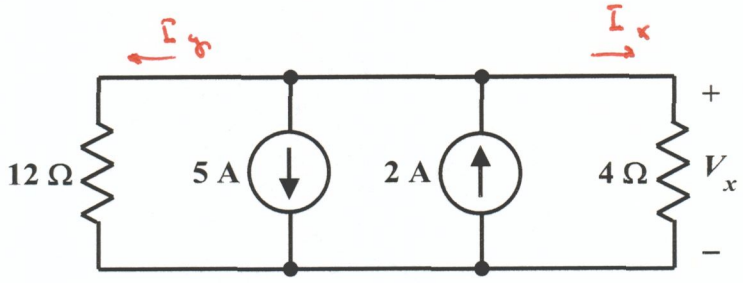
EE 2240

Problem #06

Determine the value of V_x.



$$I_y = \frac{V_x}{12\,\Omega}$$

$$I_x = \frac{V_x}{4\,\Omega}$$

$$I_y + 5A - 2A + I_x = 0 \qquad \text{(KCL)}$$

$$\therefore \quad \frac{V_x}{12} + 5 - 2 + \frac{V_x}{4} = 0$$

$$\frac{4V_x}{12} = -3$$

$$V_x = -9\,V$$