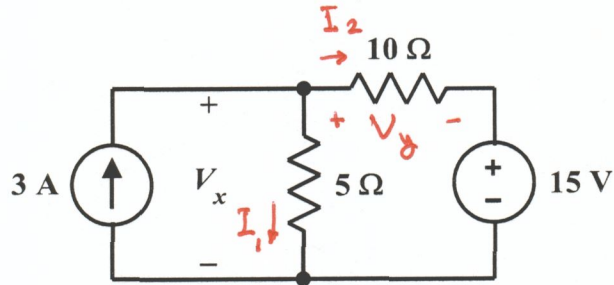


EE 2240  
Problem #03

Determine the value of  $V_x$ .



$$I_1 = \frac{V_x}{5\Omega}$$

$$I_2 = 3A - I_1 \quad (\text{KCL})$$
$$= 3 - \frac{V_x}{5}$$

$$V_y = (10\Omega) I_2 = 30 - 2V_x$$

$$-V_x + V_y + 15 = 0 \quad (\text{KVL})$$

$$\Rightarrow -V_x + (30 - 2V_x) + 15 = 0$$

$$3V_x = 45$$

$$V_x = 15V$$