

P #A(a)

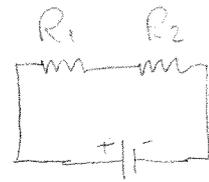
Ch 18 - Worksheet

$$\begin{aligned} a) \quad V_{\text{oc}} &= 18 \text{ V} \\ R_1 &= 18 \Omega \\ R_2 &= 6 \Omega \end{aligned}$$

For Series:

$$\begin{aligned} R_{\text{eq}} &= R_1 + R_2 \\ &= 18 \Omega + 6 \Omega \end{aligned}$$

$$R_{\text{eq}} = 24 \Omega$$



Find current:

$$\begin{aligned} V_{\text{eq}} &= I_{\text{eq}} \cdot R_{\text{eq}} \\ (18 \text{ V}) &= I_{\text{eq}} \cdot (24 \Omega) \end{aligned}$$

$$I_{\text{eq}} = I_1 = I_2 = .75 \text{ A}$$

Find voltage drop:

$$V_1 = I_1 \cdot R_1$$

$$= (.75 \text{ A})(18 \Omega)$$

$$V_1 = 13.5 \text{ V}$$

$$V_2 = I_2 \cdot R_2$$

$$= (.75 \text{ A})(6 \Omega)$$

$$V_2 = 4.5 \text{ V}$$