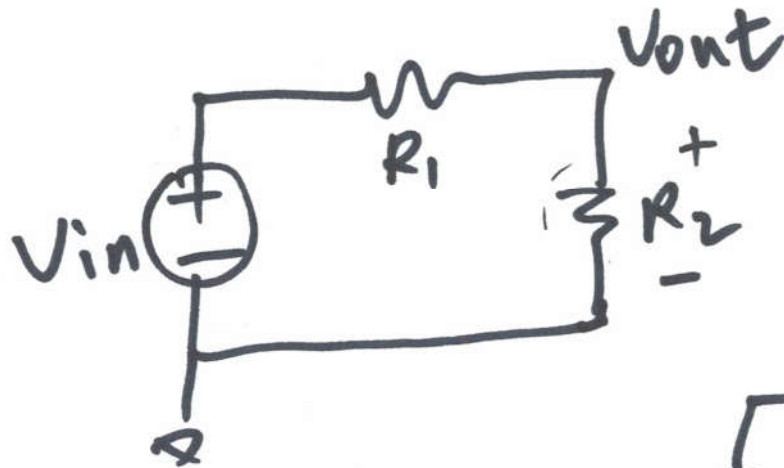
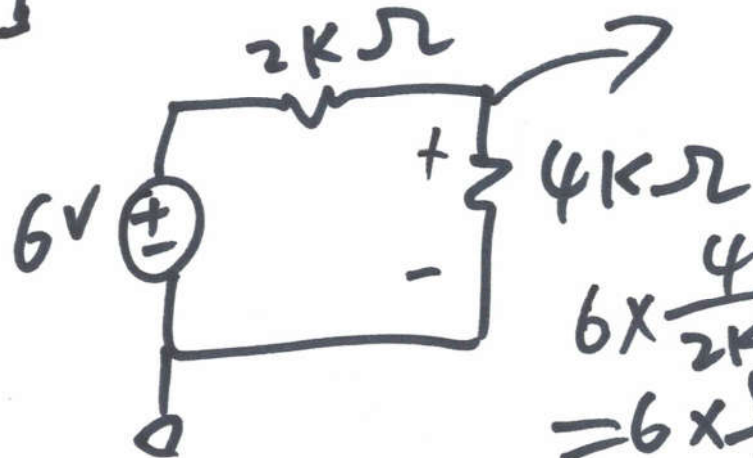


voltage divider:

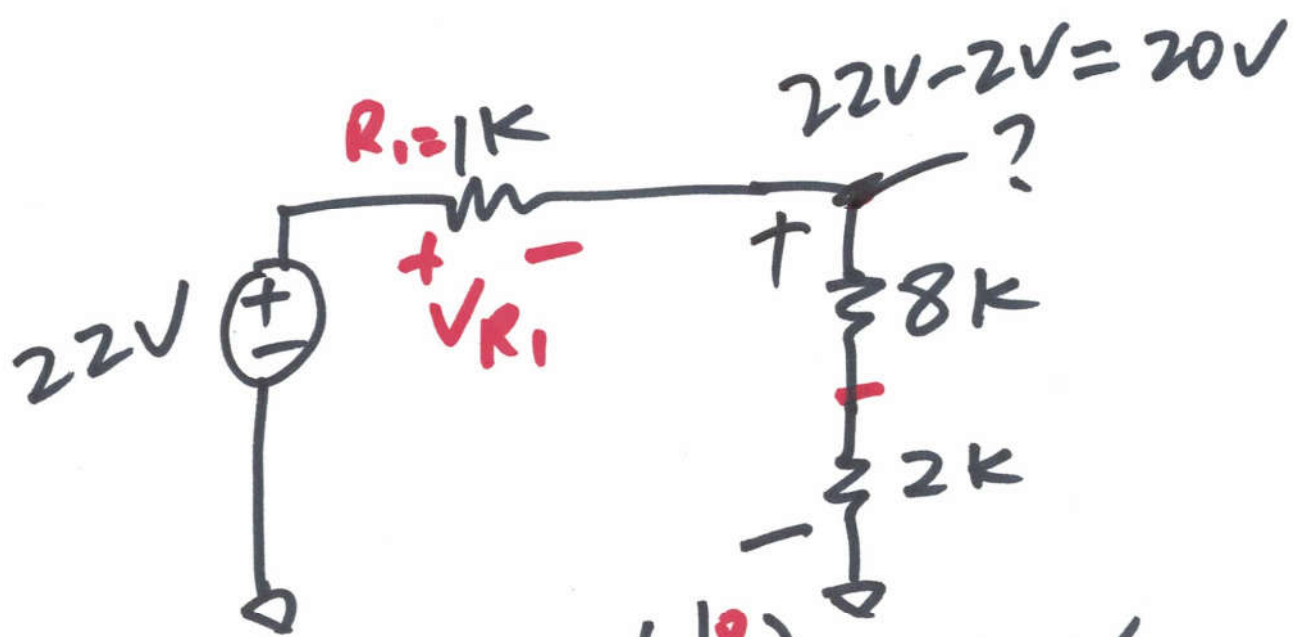


$$V_{in} \cdot \frac{R_2}{R_1 + R_2} \%$$



$$6 \times \frac{4k}{2k + 4k} = 6 \times \frac{4}{6} = 4V$$

①



$$22V \times \left(\frac{10}{11}\right) = 20V$$

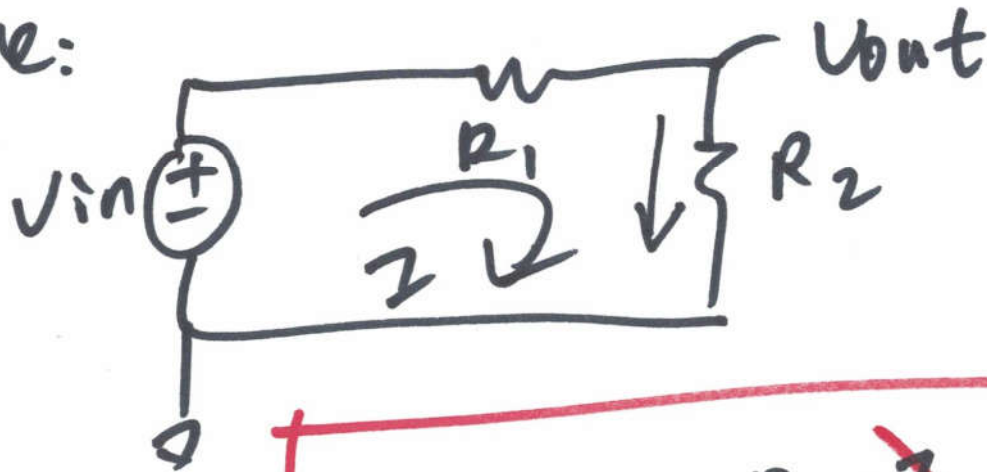
$V_{R1}?$

$$\frac{1k}{11k} = \frac{V_{R1} ?}{22V}$$

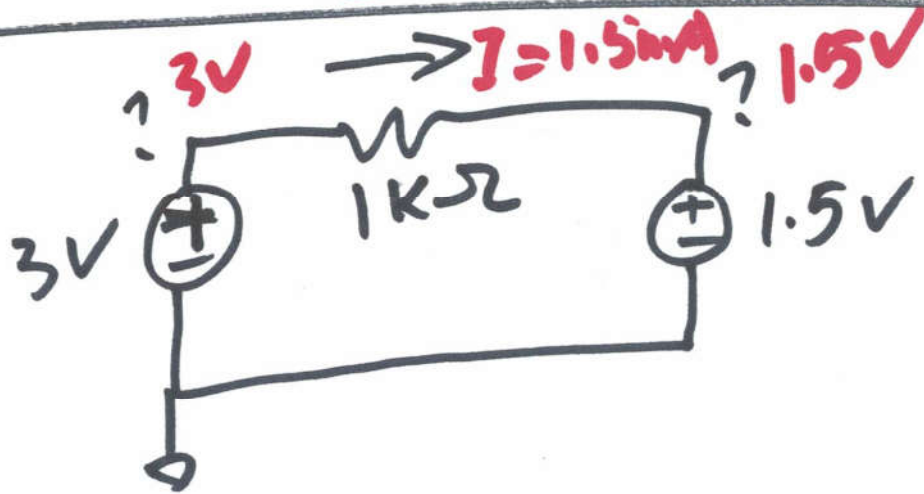
$$V_{R1} = 2V$$

②

Prove:

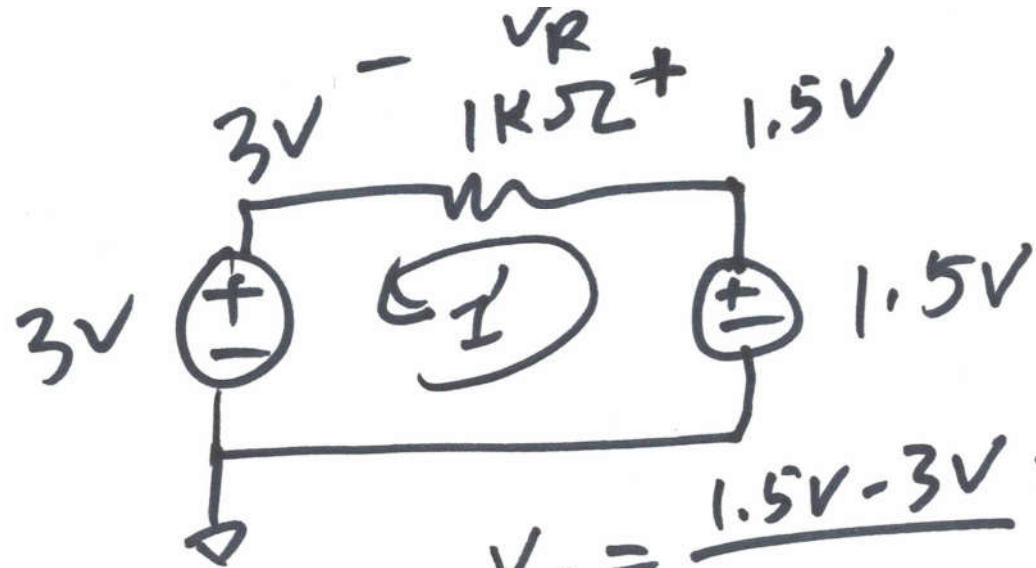


$$\frac{V_{out}}{V_{in}} = \frac{R_2 \cdot I}{(R_1 + R_2) \cdot I} = \frac{R_2}{R_1 + R_2}$$



$$I = \frac{V}{R} = \frac{3V - 1.5V}{1k\Omega} = \frac{1.5V}{1k\Omega} = 1.5 \text{ mA}$$

③

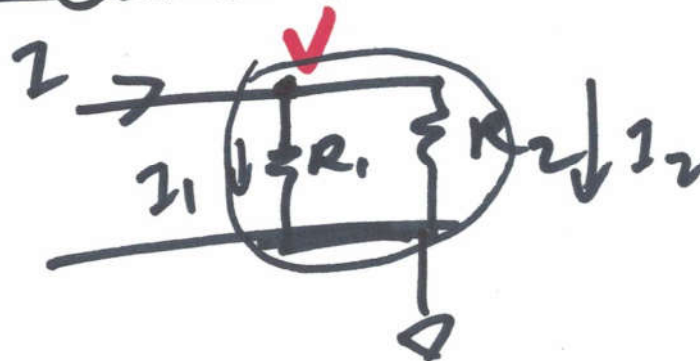


$$V_R = \frac{1.5V - 3V}{1k\Omega} = -1.5V$$

$$I' = \frac{V_R}{1k\Omega} = \frac{-1.5V}{1k\Omega}$$

$$= -1.5mA$$

Current Divider

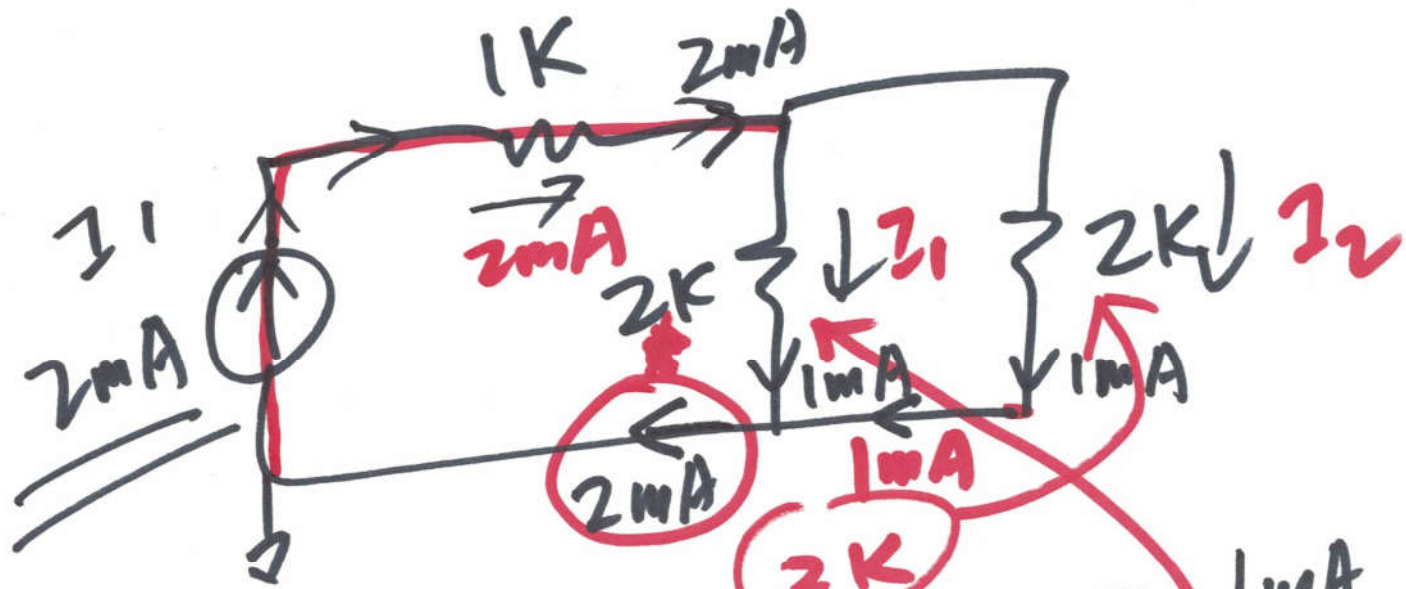


$$V = I \cdot \frac{R_1 \cdot R_2}{R_1 + R_2}$$

$$V = I_1 \cdot R_1$$

$$V = I_2 \cdot R_2$$

④



$$I_1 = 2 \cdot \frac{2\text{K}}{2\text{K} + 2\text{K}} = 1\text{mA}$$

$$I_2 = 2 \cdot \frac{2\text{K}}{2\text{K} + 2\text{K}} = 1\text{mA}$$

(5)

$$\left\{ \begin{array}{l} I \cdot \frac{R_1 \cdot R_2}{R_1 + R_2} = I_1 \cdot R_1 \quad (1) \\ I \cdot \frac{R_1 \cdot R_2}{R_1 + R_2} = I_2 \cdot R_2 \quad (2) \end{array} \right.$$

$$(1): I_1 = I \cdot \frac{R_2}{R_1 + R_2}$$

$$(2): I_2 = I \cdot \frac{R_1}{R_1 + R_2}$$

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