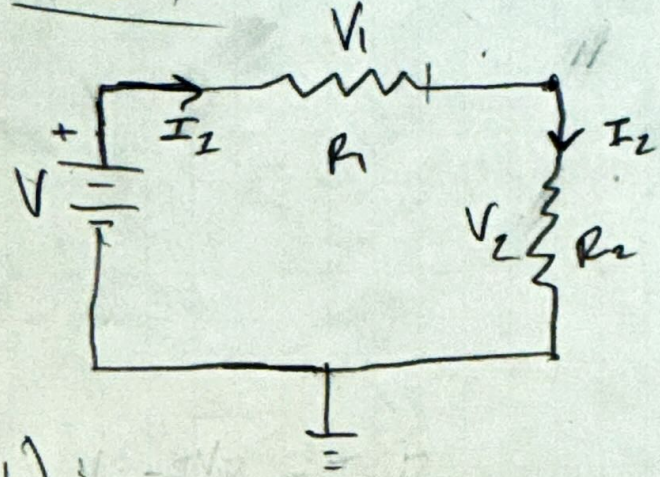
AA 320

Circuit



a)

i) $I_1 = \frac{V_1}{R_1}$ ii) $I_2 = \frac{V_2}{R_2}$

iii) Using the current law

$I_1 = I_2$

iV) kirchoff Voltage law states $\Sigma V = 0$ for a closed loop

$V - V_1 - V_2 = 0$

b)

$V = V_1 + V_2$

$V = I_1 R_1 + I_2 R_2$

$= I_1 (R_1 + R_2)$

$$\rightarrow \boxed{I_1 = \frac{V}{(R_1 + R_2)}}$$

c) The equivalent Resistance

$$\frac{V}{I_1} = \boxed{(R_1 + R_2)} = R_{eq}$$