

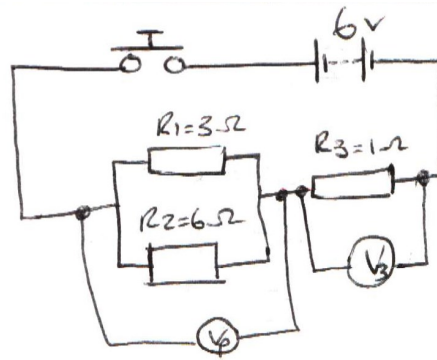
Homework 1.1

$$a) R_T = \frac{R_1 \times R_2}{R_1 + R_2}$$

$$R_T = \frac{3 \times 6}{3 + 6}$$

$$R_T = \frac{18}{9}$$

$$\underline{\underline{R_T = 2 \Omega}}$$



$$b) R_T = R_1 + R_2$$

$$R_T = 2 + 1$$

$$\underline{\underline{R_T = 3 \Omega}}$$

$$c) V = I \times R_T$$

$$I = \frac{V}{R_T} = \frac{6}{3} = \underline{\underline{2A}}$$

$$d) V_p = I \times R$$

$$V_p = 2 \times 2$$

$$\underline{\underline{V_p = 4V}}$$

$$V_3 = I \times R$$

$$V_3 = 2 \times 1$$

$$\underline{\underline{V_3 = 2V}}$$

$$e) V = I_1 \times R$$

$$I_1 = \frac{V}{R}$$

$$I_1 = \frac{4}{3}$$

$$\underline{\underline{I_1 = 1.33A}}$$

$$V = I_2 \times R$$

$$I_2 = \frac{V}{R}$$

$$I_2 = \frac{4}{6}$$

$$\underline{\underline{I_2 = 0.67A}}$$

Homework 1.2.

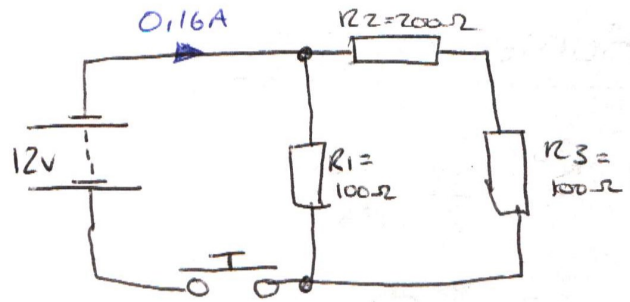
$$a) R_T = \frac{R_1 \times R_2}{R_1 + R_2}$$

$$R_T = \frac{100 \times 300}{100 + 300}$$

$$R_T = \frac{30000}{400}$$

$$\underline{\underline{R_T = 75 \Omega}}$$

$$R_T = R_1 + R_2$$
$$R_T = 200 + 100$$
$$\underline{\underline{R_T = 300 \Omega}}$$



$$b) V = I \times R$$

$$I = \frac{V}{R_T}$$

$$I = \frac{12}{75}$$

$$\underline{\underline{I = 0.16A}}$$

$$V = I \times R$$

$$V_2 = 0.16 \times 200$$

$$V_2 = 32$$

$$V = I_1 \times R_1$$

$$I_1 = \frac{V}{R_1}$$

$$I_1 = \frac{12}{100}$$

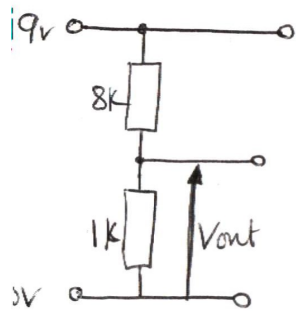
$$\underline{\underline{I_1 = 0.12A}}$$

$$I_{2+3} = I_T - I_1$$

$$I_{2+3} = 0.16 - 0.12$$

$$\underline{\underline{I_{2+3} = 0.04A}}$$

mewak 1.3.



$$V = I \times R$$

$$I = \frac{V}{R}$$

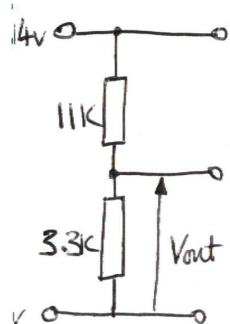
$$I = \frac{9}{9000}$$

$$\underline{\underline{I = 1\text{mA}}}$$

$$V = I \times R$$

$$V = (1 \times 10^{-3}) \times 1000$$

$$\underline{\underline{V = 1\text{V}}}$$



$$V = I \times R$$

$$I = \frac{V}{R}$$

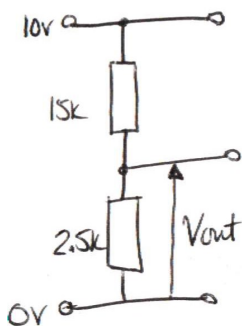
$$I = \frac{14}{14300}$$

$$\underline{\underline{I = 9.79 \times 10^{-4}\text{A}}}$$

$$V = I \times R$$

$$V = (9.79 \times 10^{-4}) \times 3300$$

$$\underline{\underline{V = 3.23\text{V}}}$$



$$V = I \times R$$

$$I = \frac{V}{R}$$

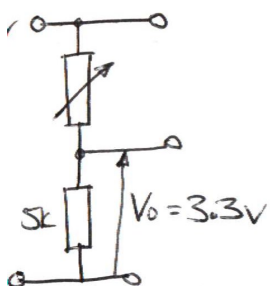
$$I = \frac{10}{17500}$$

$$\underline{\underline{I = 5.71 \times 10^{-4}\text{A}}}$$

$$V = I \times R$$

$$V = (5.71 \times 10^{-4}) \times 2500$$

$$\underline{\underline{V = 1.43\text{V}}}$$



$$V = I \times R$$

$$3.3 = I \times 5000$$

$$I = \frac{3.3}{5000}$$

$$\underline{\underline{I = 6.6 \times 10^{-4}\text{A}}}$$

$$V = I \times R$$

$$R = \frac{V}{I}$$

$$R = \frac{12}{6.6 \times 10^{-4}}$$

$$\underline{\underline{R = 18181.82 \Omega}}$$

$$R_v = 18181.82 - 5000 = \underline{\underline{13181.82 \Omega}}$$