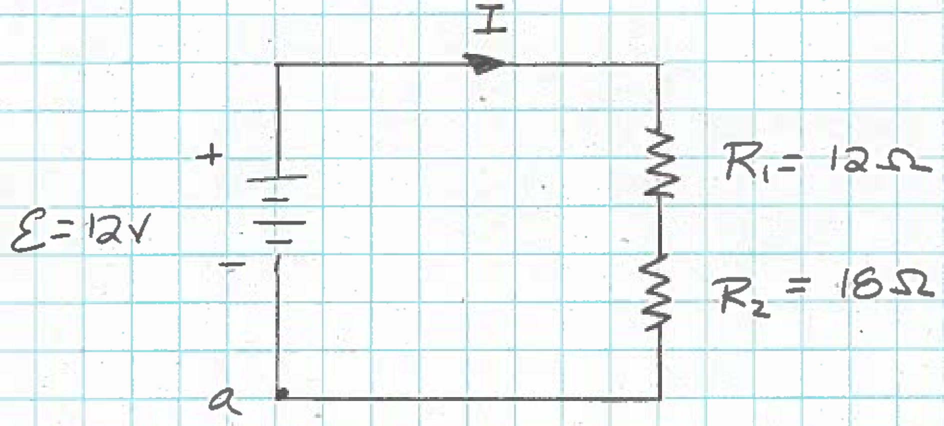

find P_1 and P_2, the power dissipated in the resistors.

Why can't we use:

$$P_1 = \frac{\Delta V^2}{R_1} = \frac{\mathcal{E}^2}{R_1} \quad \& \quad P_2 = \frac{\Delta V^2}{R_2} = \frac{\mathcal{E}^2}{R_2} \quad ?$$

The ΔV's in these equation must be the potentials across the resistors which aren't $\mathcal{E}$.

Need to find I, which is the same for each R:

Loop ↻ from a: $+\mathcal{E} - IR_1 - IR_2 = 0$

$$\text{So, } I = \frac{\mathcal{E}}{R_1 + R_2} = 0.4\,A$$

$\therefore$ $P_1 = I^2 R_1 = \underline{1.92\,W}$

$P_2 = I^2 R_2 = \underline{2.88\,W}$