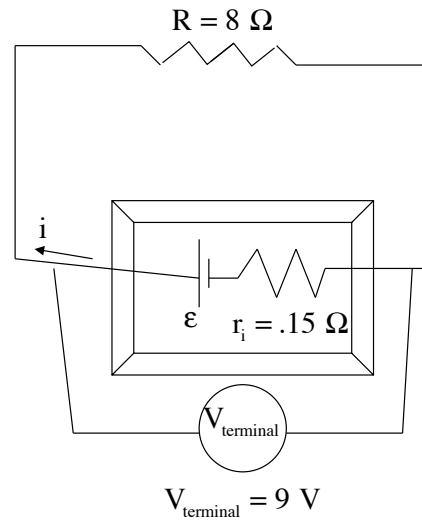


### Problem 18.4

a.) What's the current?



b.) What's the EMF?

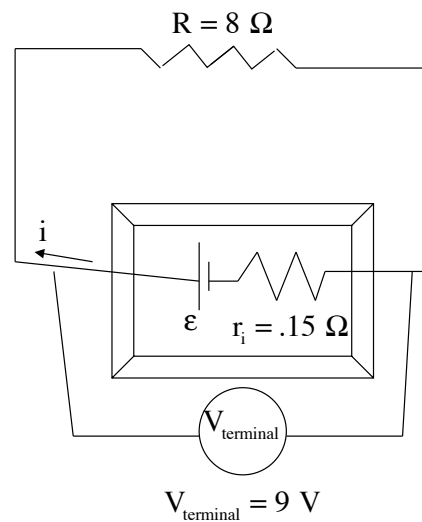
1.)

18.4a) What's the current?

$$\begin{aligned} V_{\text{terminal}} &= i R_1 \\ \Rightarrow i &= \frac{V_t}{R_1} \\ \Rightarrow &= \frac{9 \text{ V}}{8 \Omega} \\ &= 1.125 \text{ A} \end{aligned}$$

b.) What's the EMF?

$$\begin{aligned} V_{\text{term}} &= \varepsilon - i r_i \\ \Rightarrow \varepsilon &= (9 \text{ V}) + (1.125 \text{ A})(.15 \Omega) \\ &= 9.17 \text{ V} \end{aligned}$$



2.)