Problem 27.12

The voltage difference across a resistor is proportional to the current through the resistor and the resistance of the resistor, or:

$$V_R = iR$$

$$\Rightarrow \quad i = \frac{V_R}{R}$$

$$= \frac{(120 \text{ V})}{(240 \text{ }\Omega)}$$

$$= .5 \text{ amps}$$