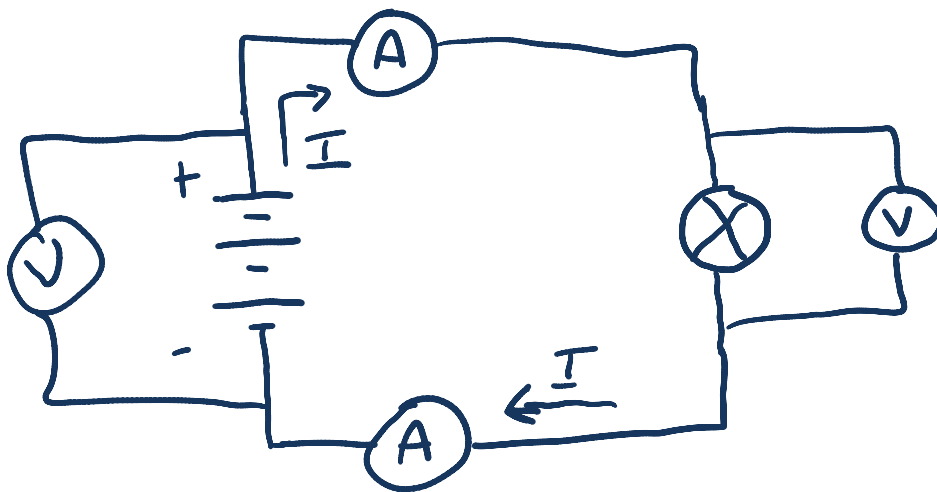


13. Draw a simple circuit using circuit symbols containing
- a battery of 3 cells,
  - a light bulb,
  - a voltmeter measuring the voltage across the battery,
  - a voltmeter measuring the voltage across the light bulb,
  - an ammeter measuring the current leaving the battery,
  - an ammeter measuring the current entering the battery,
  - the symbol  $I$  with an arrow showing the direction of mathematical current



14. What is the resistance of a component that draws 4 A of current when attached to a 12 V battery?

$$I = 4A$$

$$V = 12V$$

$$= R \quad \sim$$

$$\rightarrow V =$$

$$R = \frac{V}{I} \quad \frac{12}{4}$$

$$R = 3\Omega$$

15. What is the current through a  $150\ \Omega$  resistor when connected to a 12V battery?

$$R = 150\ \Omega$$

$$V = 12\text{V}$$

$$I = ?$$

$$V = IR$$

$$I = \frac{V}{R} = \frac{12}{150}$$

$$I = 0.08\text{A}$$

16. What voltage is across a  $1400\ \Omega$  resistor that carries a current of  $0.5\text{A}$ ?

$$R = 1400\ \Omega$$

$$I = 0.5\ \text{A}$$

$$V = ?$$

$$V = IR$$

$$V = (0.5)(1400)$$

$$V = 700\ \text{V}$$