



# Lecture 07

---

**Current & Circuits**

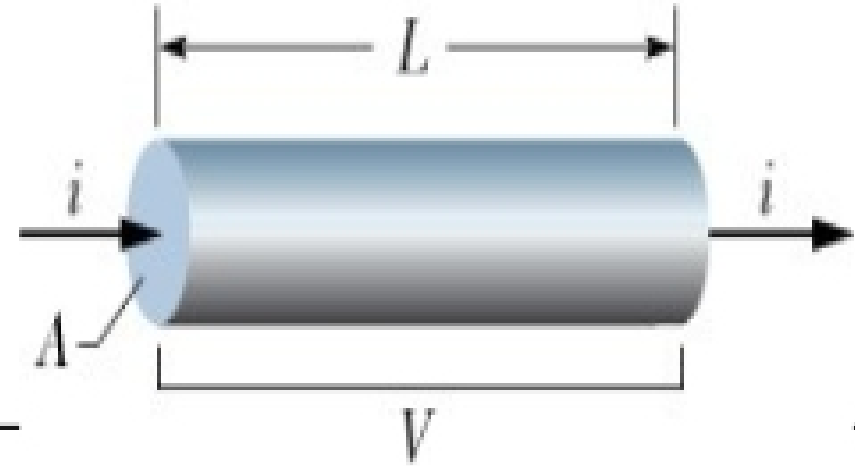
**October 11, 2005**

## Dis week ...

---

- Monday - finish resistance and current and begin electric circuit.
- There is a new WA on board.
- Friday - Quiz on Monday-Wednesday's material
- **NEXT FRIDAY - Examination #2**
  - Studying is a good idea!

Last time ...  
J and E



$$i = JA$$

$$J = \frac{i}{A} = \frac{V}{RA} = \frac{V}{A \left[ \frac{\rho L}{A} \right]} = \frac{1}{\rho} \frac{V}{L}$$

$$J = \sigma \left[ \frac{V}{L} \right] = \sigma E$$

let  $A \rightarrow 0$  and

$$\mathbf{J} = \sigma \mathbf{E}$$