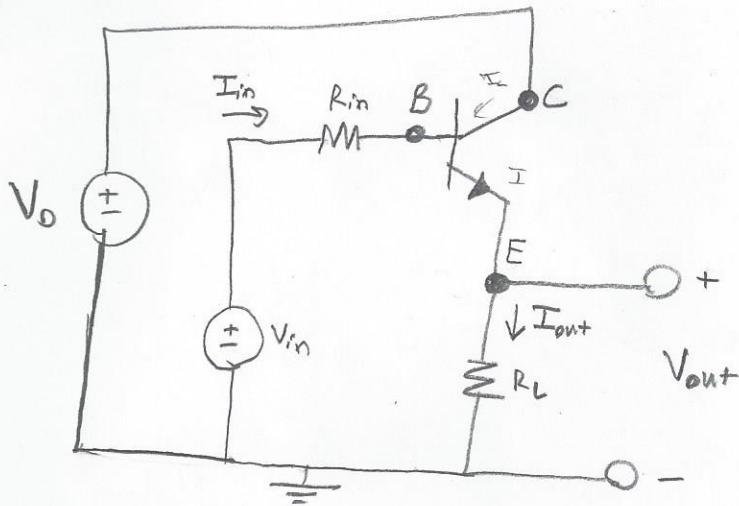


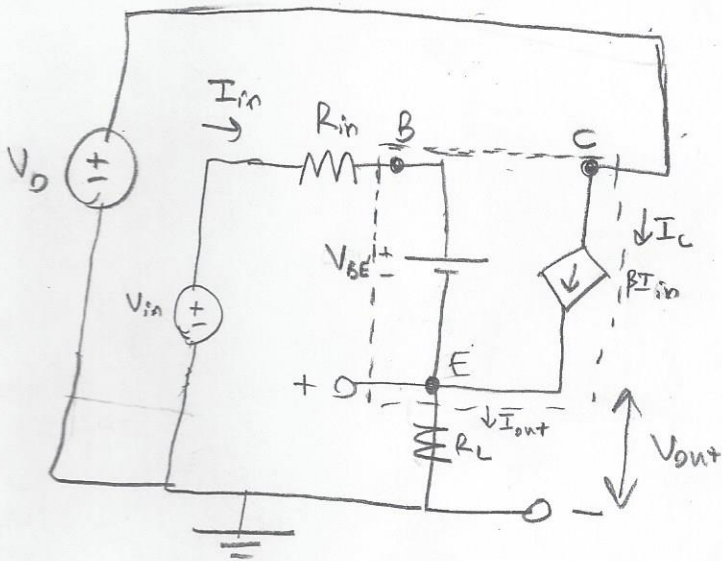
7



$$A_V = ? = \frac{V_{out}}{V_{in}}$$

$$A_I = \frac{I_{out}}{I_{in}}$$

$$V_{in} \gg V_{BE}$$



$$A_V = \frac{V_{out}}{V_{in}} = ?$$

$$A_I = \frac{I_{out}}{I_{in}}$$

$$I_{out} = \beta I_{in} + I_{in}$$

$$A_I = \frac{I_{out}}{I_{in}} = \frac{\beta I_{in} + I_{in}}{I_{in}} = 1 + \beta$$

$$A_I = 1 + \beta$$

$$V_{out} = I_{out} R_L$$

$$\frac{(1 + \beta) I_{in} R_L}{\frac{V_{in} - V_{BE}}{R_{in}}} = \frac{(1 + \beta) I_{in} R_L}{I_{in}}$$

$$A_V = (1 + \beta) R_L$$

$$A_I = \beta$$