

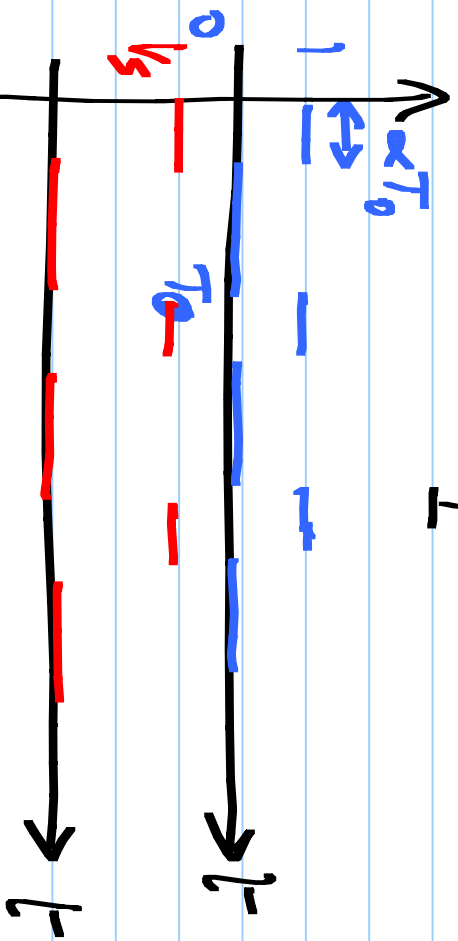
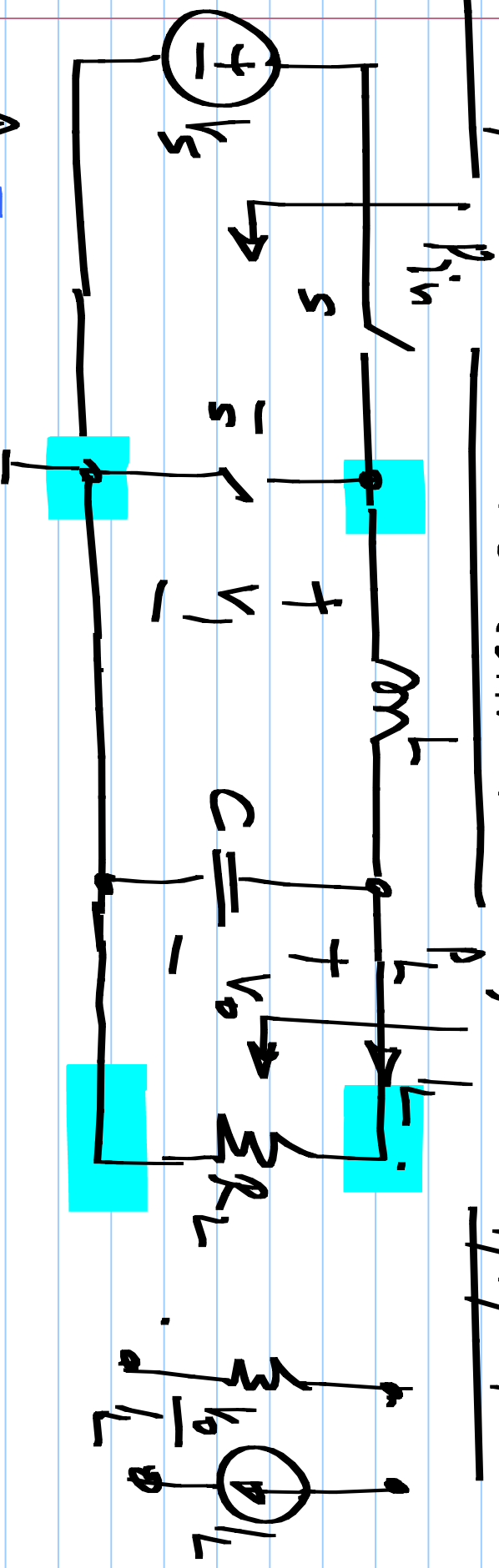
EE 2019

DC-DC conversion

efficiency

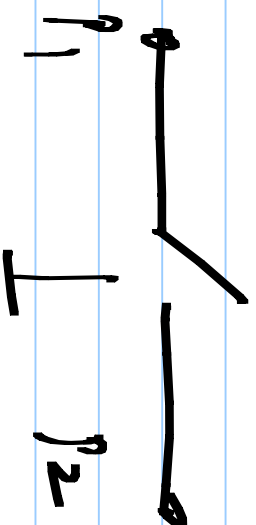
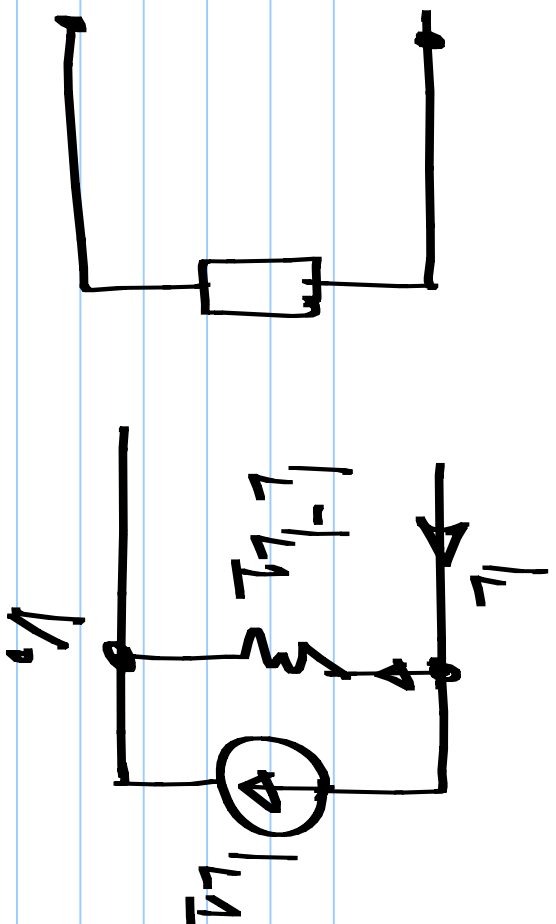
$$\frac{P_{out}}{P_{in}} \sim 1$$

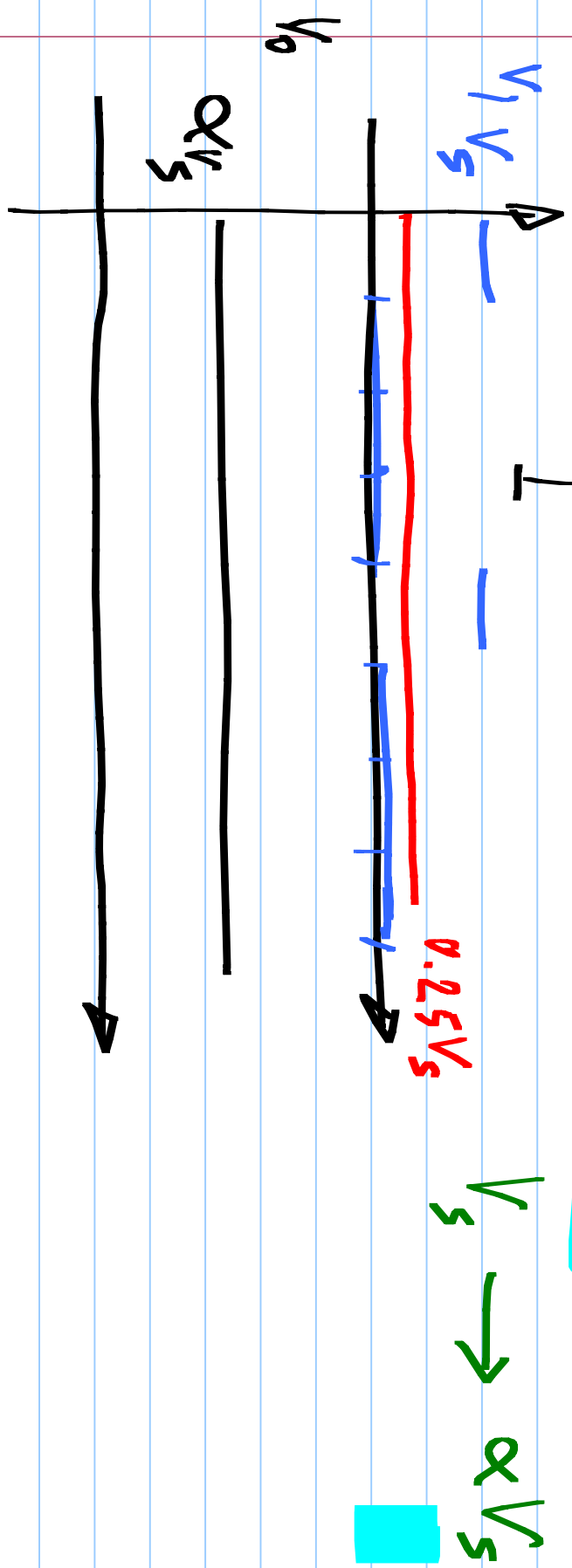
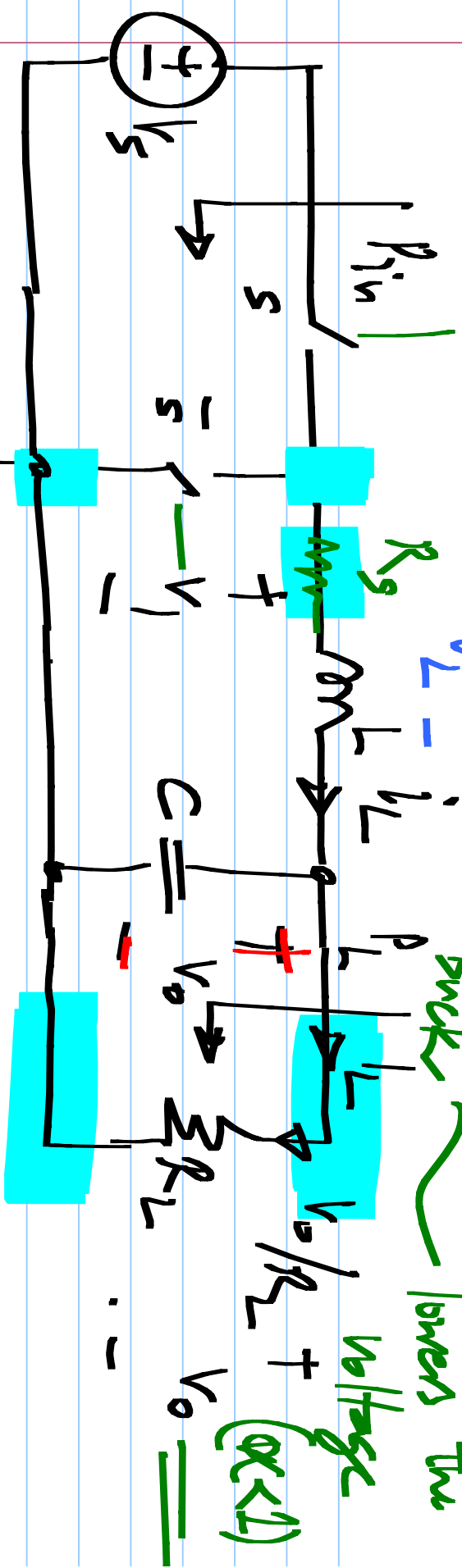
9/3/2018



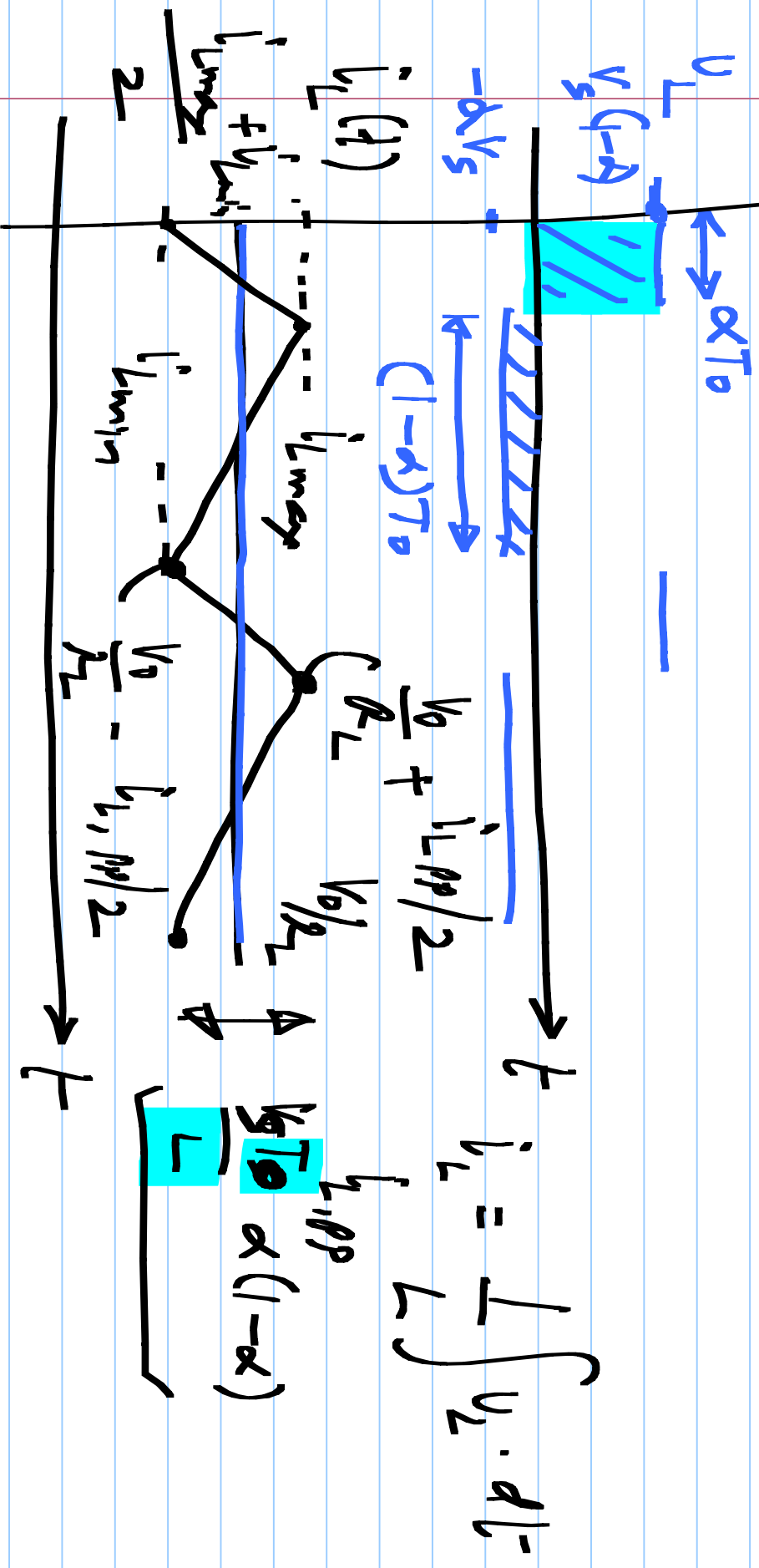
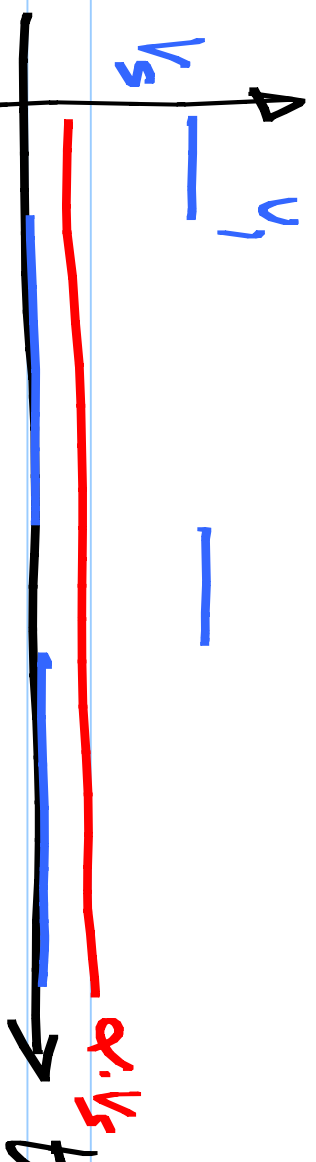
$$V_o = \alpha \cdot V_s$$

$$\sum_{k=0}^{\infty} V_k \cos(k\omega t + \phi_k)$$





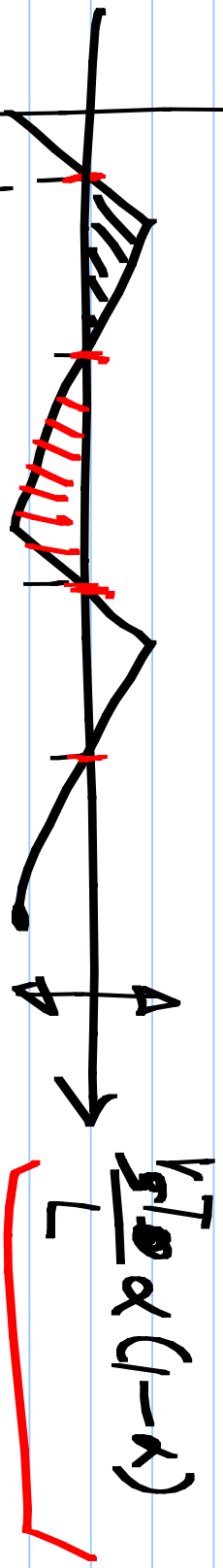
$$v_1 - v_0$$



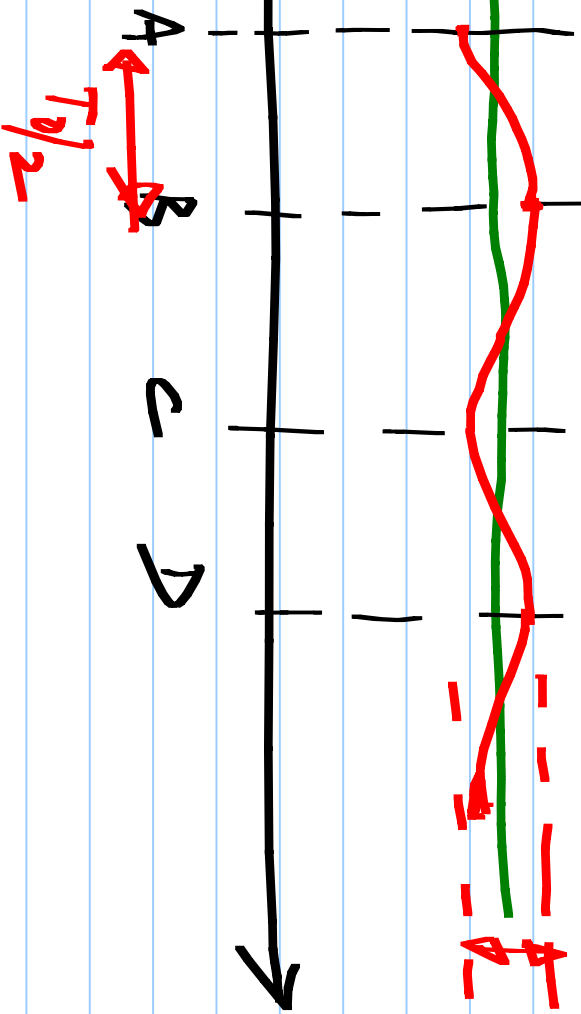
I_c

$$\frac{1}{2} \cdot \frac{T_0}{2} \cdot \frac{1}{2} \cdot \frac{V_s T_0}{L} \frac{\alpha(1-\alpha)}{C} = V_{eff} \cdot$$

$$\boxed{\frac{V_s T_0^2 \alpha(1-\alpha)}{8 \cdot L C}}$$

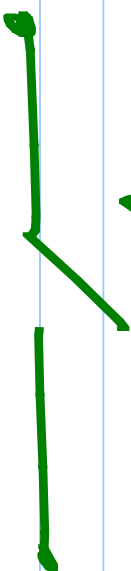
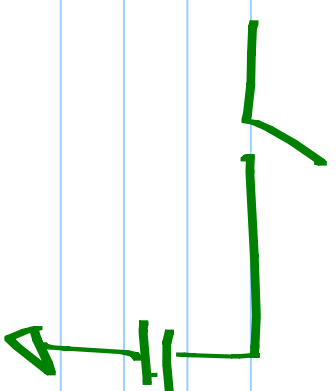
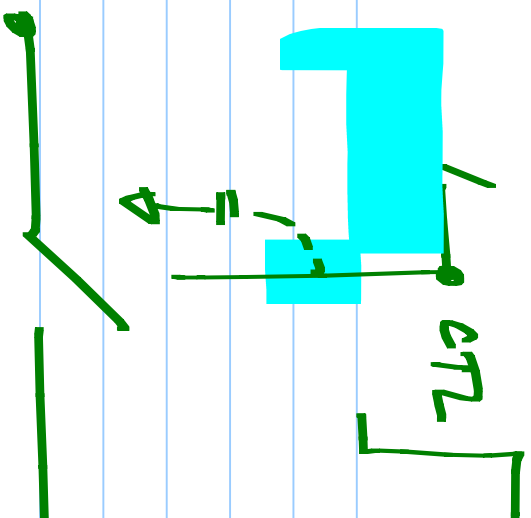


V_c
 αV_s

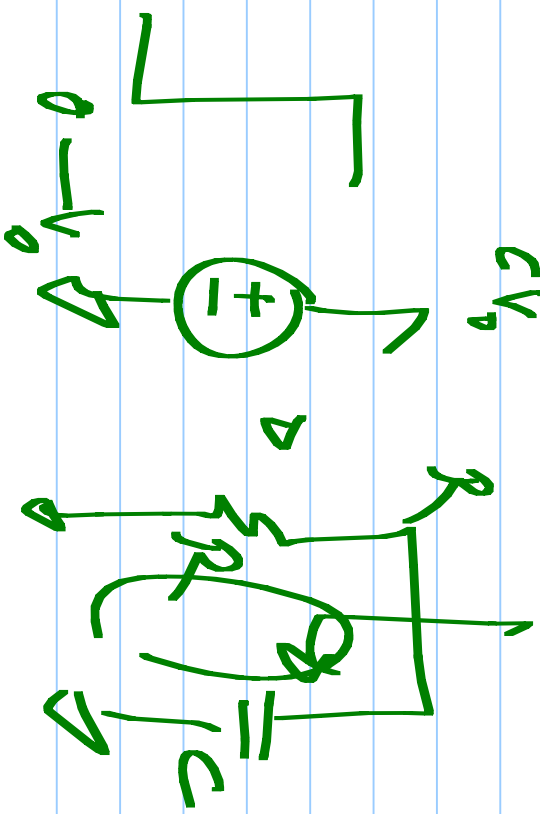


$$V_{c,pp} = \frac{V_s T_0^2 \alpha(1-\alpha)}{8 \cdot}$$

$$\frac{4\pi^2 f_{LC}^2}{f_0^2} (\alpha V_s) \frac{T_0^2}{8LC} (1-\alpha)$$



$$C_1 V_0^2$$



$$\frac{1}{2} C V_0^2$$