Lab on__(Wed)__Thu ___Fri_____　　　　Name (PRINT): Bennett , Roger

(LAST NAME)　　(Frist Name)

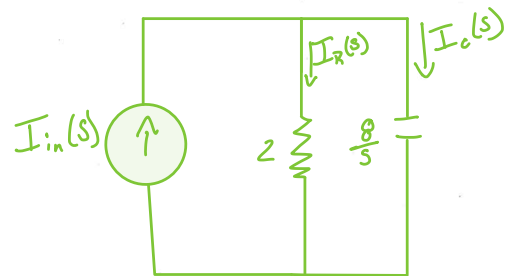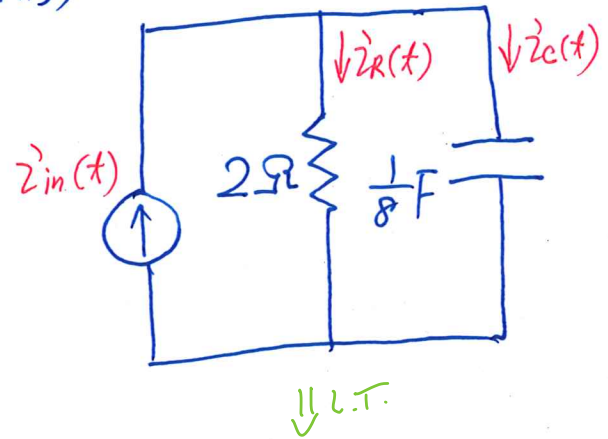(Pay attention to the notation completeness and rigor of analytics).

6.1. Find the transfer function of the following circuit as defined: *(10 points)*

$$H_1(s) = \frac{I_R(s)}{I_{in}(s)}$$

$$I_R(s) = \frac{\frac{8}{s}}{2 + \frac{8}{s}} I_{in}(s)$$

$$= \frac{8}{2s + 8} I_{in}(s) = \frac{4}{s + 4} I_{in}(s)$$

$$\boxed{H_1(s) = \frac{I_R(s)}{I_{in}(s)} = \frac{4}{s + 4}}$$

$$H_2(s) = \frac{I_c(s)}{I_{in}(s)}$$

$$I_c(s) = \frac{2}{\frac{8}{s} + 2} I_{in}(s) = \frac{2s}{8 + 2s} I_{in}(s) = \frac{s}{4 + s} I_{in}(s)$$

$$\boxed{H_2(s) = \frac{I_c(s)}{I_{in}(s)} = \frac{s}{s + 4}}$$