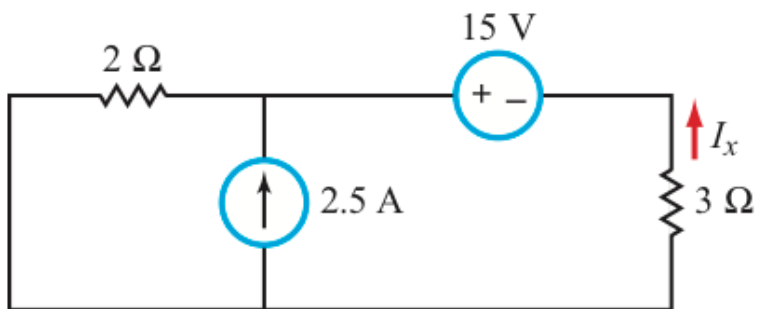
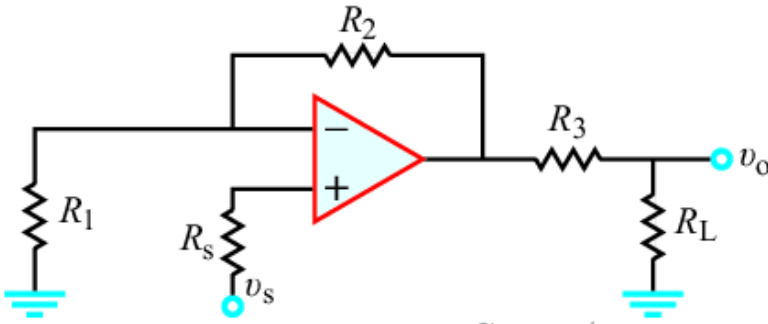


ECEN 214 Spring 2022 – Review Problems for Exam 2

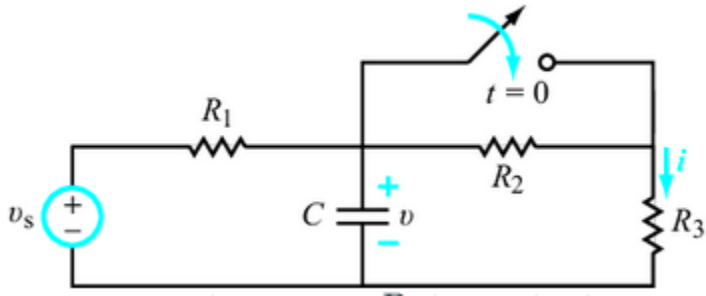
1. (Review problem) Find I_x in the circuit below



2. (Op-Amps) Obtain an expression for the voltage gain $G = v_o/v_s$ for the circuit below



3. (First order transients) Determine $i(t)$ for $t \geq 0$ where i is the current passing through R_3 in the circuit of the figure below. Use $v_s = 16 \text{ V}$, $R_1 = R_2 = 2 \text{ k}\Omega$, $R_3 = 4 \text{ k}\Omega$, $C = 25 \text{ }\mu\text{F}$. Assume the switch has been open for a long time prior to $t = 0$.



4. (Second order transients) Determine $i_L(t)$ in the circuit below for $t \geq 0$. Is this case overdamped, underdamped, or critically damped?

