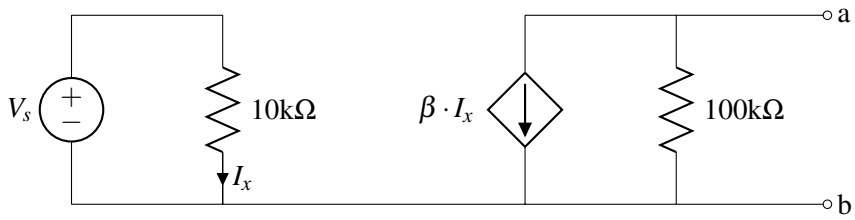
EECS 16A Designing Information Devices and Systems I
Fall 2016 Babak Ayazifar, Vladimir Stojanovic **Discussion 7A**

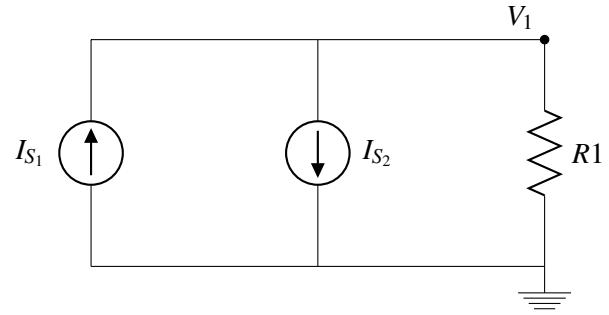
1. Equivalence Find the Norton equivalent of the following circuit across the terminals a and b (in terms of V_s and β). Note that the current source is dependent on the current I_x.



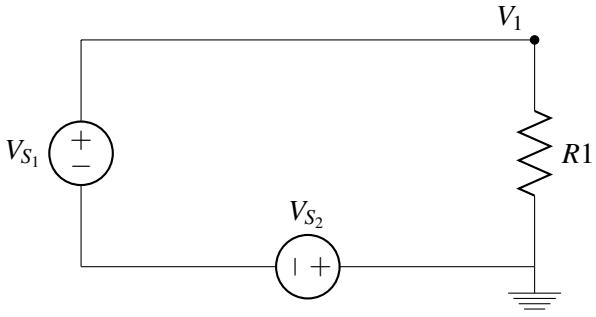
2. Superposition Practice

For the following circuits, use the superposition theorem to solve for the node potential V_1.

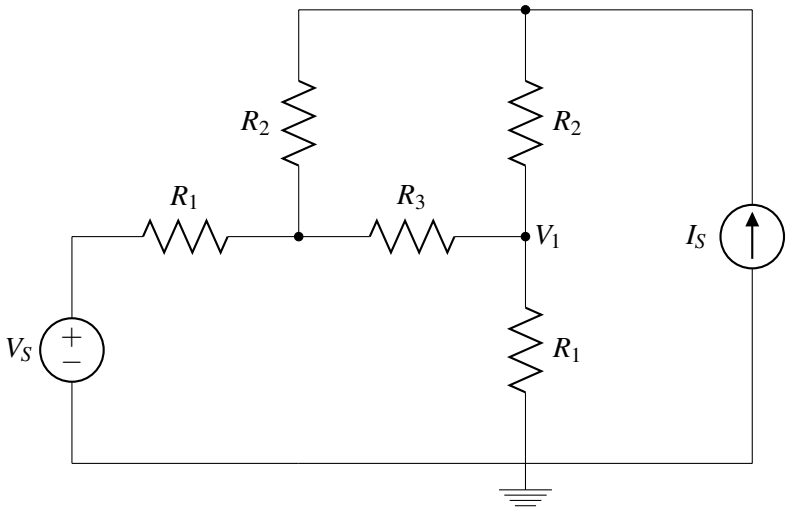
(a)



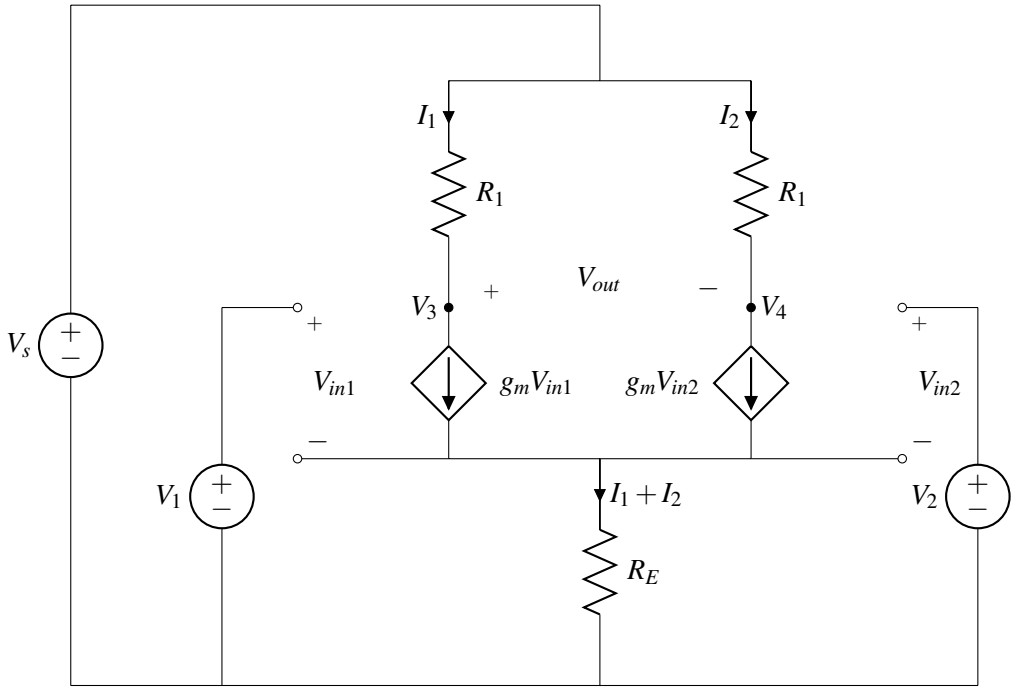
(b)



(c)



3. Superposition



(a) For the circuit above, first calculate V_{out} with only V_s on?

(b) Now calculate V_{out} with only V_1 on. Repeat this with only V_2 on.

(c) Let's now turn on V_s, V_1 and V_2. What is the output V_{out}? What does this circuit do to arbitrary input voltages?