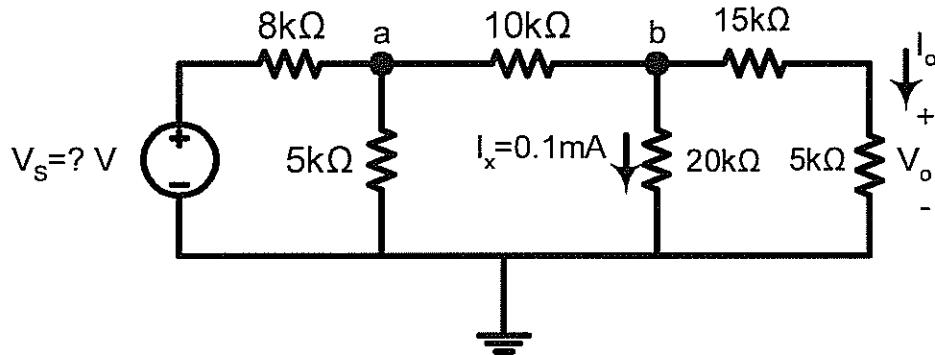


University of Toronto
Department of Electrical & Computer Engineering
ECE110S – Electrical Fundamentals
Quiz 2 – February 14, 2007, 4:30-5:00 PM

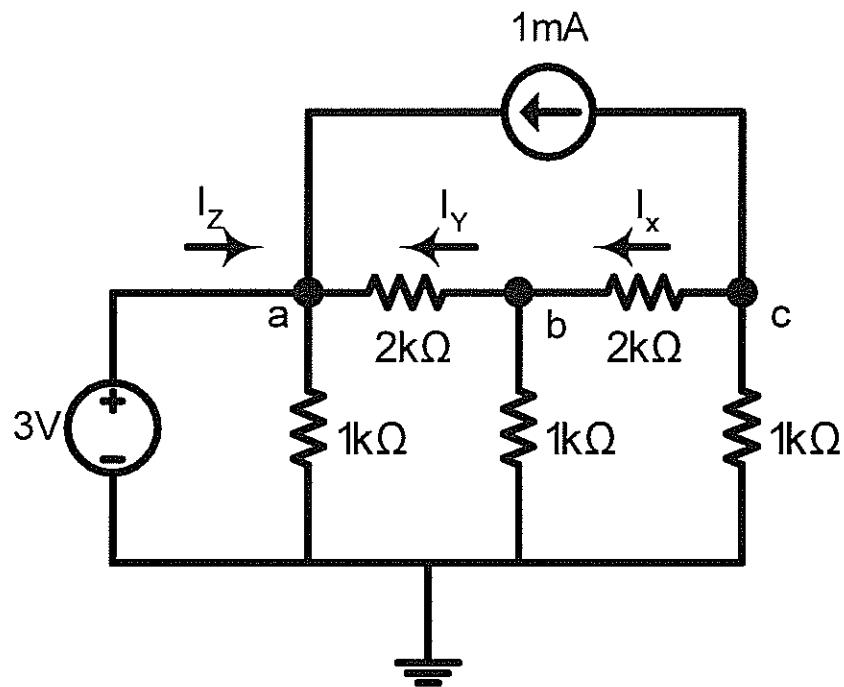
Instructions: Non-programmable calculators allowed. No other aids. Answer in the space provided on these sheets. The back sides of these sheets can be used as well. For full marks (20) you must show methods, state UNITS and compute numerical answers when requested. **Please write in PEN, not pencil.**

1. [8 marks] Consider the circuit shown below. If a current of $I_x=0.1\text{mA}$ goes through the $20\text{k}\Omega$ resistor, determine the following variables using KVL, KCL and Ohm's law:
 - (a) Voltage at node *b*. (1 marks)
 - (b) Current I_o and voltage V_o . (2 marks)
 - (c) Voltage at node *a*. (2 marks)
 - (d) Voltage V_s . (3 marks)



2. [12 marks] In the circuit below use NODAL ANALYSIS to determine the followings:

- (a) Voltage at nodes b and c. (6 marks)
- (b) Currents I_x , I_y . (4 marks)
- (c) Current I_z . (2 marks)



Extra Page