NAME: _____ EE 283B STATION: _____

LAB EXAM Fall 2015

1. Determine the coded resistance value for the resistors with color bands given in Table 1. (12 pts)

Table 1. Color code for resistors.

Color	Color	Color	Color	Code Value
Red	Violet	Brown	Silver	
Brown	Green	Green	Gold	

Use the Agilent 34401A DMM for all measurements.

2. Measure the resistance of each resistor supplied to you that is needed to build the circuit in Figure 1 and **indicate clearly on Figure 1 the actual resistance that you measured**. (10 pts)

3. Construct the circuit shown in Figure 1 using these resistors and supply the voltage indicated in Figure 1. Measure the following currents and voltages in the direction indicated in the circuit diagram. Turn off the supply voltage. (50 pts)

Hint: V_L = 4.6 V

V_2 =

V_3 =

V_4 =

I_8 =

I_3 =

4. Remove load resistor R_L from the circuit of Figure 1 and supply the voltage V_s. Measure the open circuit voltage (Thevenin Voltage) between terminals A and B. Switch off the supply. (10 pts)

Thevenin Voltage, $V_{Thevenin}$ =

5. Keep the voltage supply off and replace it by a short circuit. Measure the resistance ($R_{Thevenin}$) between terminals A and B. (10 pts)

Thevenin Resistance, $R_{Thevenin}$ =

6. Draw the Thevenin equivalent circuit for the circuit of Figure 1 and calculate the load current I_L. (8 pts)
(Show all work here. Give an <u>expression</u> for I_L; you don't need to calculate it.)

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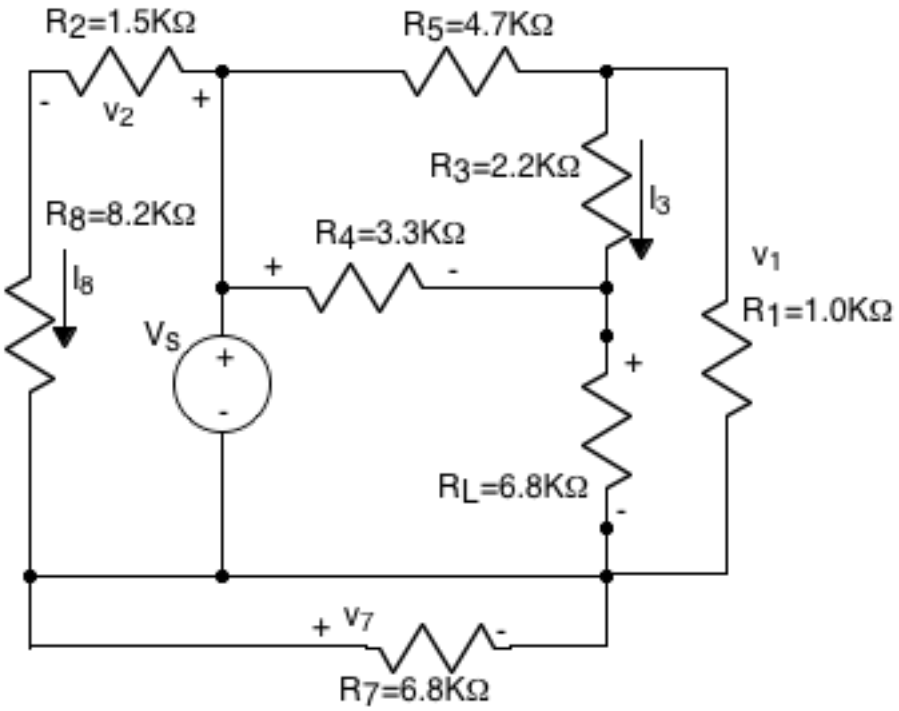

Figure 1 Test circuit. Set V_S = 10.0 v