

Week 3 Validation

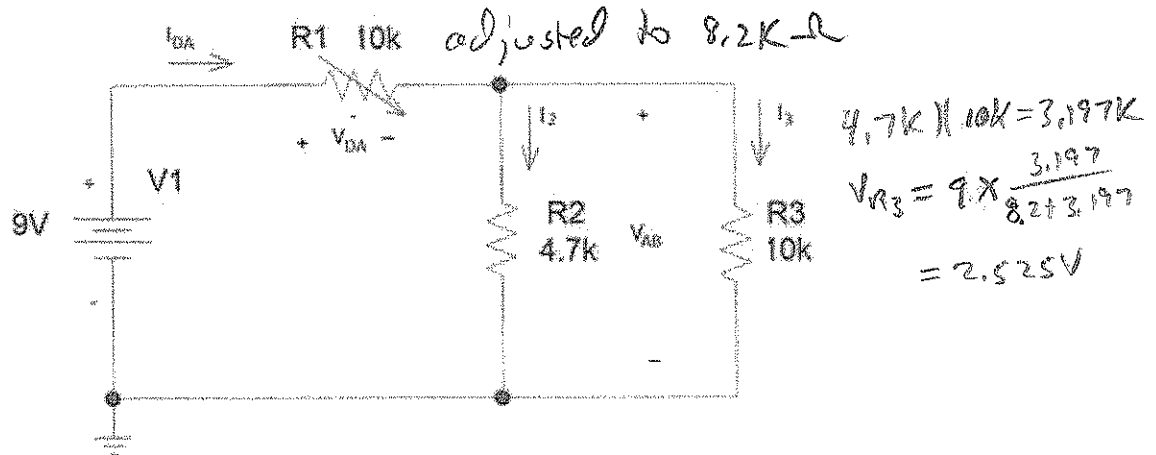
ATA

Instructions for the Validation:

Due Wed 2-8-12

Students will bring the circuit on the ANDY board, the ANDY board power supply, and the DMM along with their Tablet PC to the Open Electronics Laboratory.

Students will have constructed the circuit from Figure 2, where the 8.2 $\text{k}\Omega$ resistor has been replaced with a 10 $\text{k}\Omega$ trim pot on their ANDY board. This is the circuit shown at the bottom of the first page of this document.



The grade for Week 3 Validation will be based upon two sets of criteria listed below.

Proper Circuit Construction Techniques:

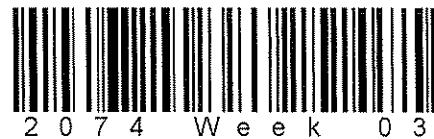
1. Student's wiring is neat (10%).
2. No wire is more than an inch above the breadboard (10%).
3. A red wire is used for power (10%).
4. A black wire is used for ground (10%).

Proper Measurement Techniques Performed Before an OpEL GTA:

1. Adjust the value of the trim pot such that it is equal to 8.2 $\text{k}\Omega$, based upon a measurement of voltage V_{AB} (20%).
 2. Measure the voltage V_{DA} (15%). $V_{DA} = V_{R1} \approx 6.5\text{V}$
 3. Measure the current I_{DA} (15%). $I_{DA} \approx 0.78\text{mA}$
 4. Measure the resistance of the trim pot between pins 1 and 2 (10%). $R_{\text{trim pot}} \approx 8.2\text{k}\Omega$
- Handwritten note: measure V_{R3} or V_{R2} and adjust trim pot for $V \approx 2.53\text{V}$

Not taught to EE students:

Clip short wires to meter leads and insert wires into breadboard.



Encourage students to use wires for measurements instead of clipping leads directly to circuit components.