ECE 1050 / 60  homework # 4  Due: Tue, 9/14/04

Answer the following problems on your own paper. Since you have the answers, you must show your equations and work to get credit.

**Superposition**

1. Use superposition to find $b$. Circle your intermediate solutions on your paper. Your intermediate solutions show how much of $V_3$ is due to $V_A$, and how much is due to $V_B$.

![Superposition Circuit Diagram]

2. Use superposition to solve following problems: Each problem asks for both a current and a voltage.

   Clearly indicate your intermediate answers, the grader will look for those.

   a) $R_1 := 40 \cdot \Omega$  $V_a = ?$

   ![Superposition Circuit Diagram for a)](image)

   These are ground symbols. They are all connected together, although that connection is not explicitly shown.

   b) $R_2 := 22 \cdot \Omega$

   ![Superposition Circuit Diagram for b)](image)

   c) Watch your signs.

   ![Superposition Circuit Diagram for c)](image)

**Answers**

1. $2 \cdot \text{mA} + 5 \cdot \text{mA} = 7 \cdot \text{mA}$

2. a) $4.2 \cdot V$, 20 mA  
   b) 8.86 V, 143 mA  
   c) 0.5 V, -0.5 mA

Turn over, HW #5 on back ---