

Name: \_\_\_\_\_

1. Write the equation, then briefly explain: (20 pts ea.)

(a) Kirchhoff's Voltage Law (KVL)

(b) Kirchhoff's Current Law (KCL)

2. Consider the circuit shown in Fig. 17.2 and the *Equipment* list on Page 1. Use Kirchhoff's Current Law and Voltage Law to solve for the theoretical currents,  $i_1$ ,  $i_2$ , and  $i_3$ .

In performing the experiment, measured values will be used for the emfs and resistances. For the pre-lab, use the nominal values as stated in the *Equipment* list.

(a) Write the system of three equations. (30 pts)

(b) Solve for  $I_1$ ,  $I_2$ , and  $I_3$  using substitution. (30 pts)