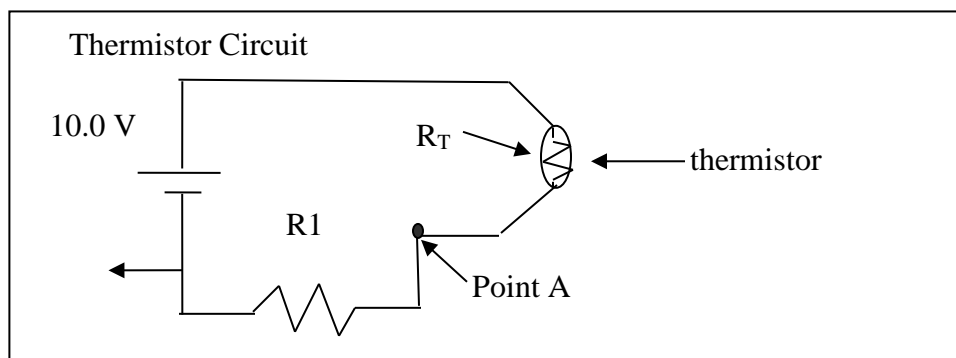


**CHEMISTRY 133**  
**Set 1.1 – Additional Problems**

**1.1.1.** The circuit below is set up to measure temperature using a thermistor. The thermistor is a resistor in which the resistance,  $R_T$ , varies with temperature. In the circuit below with  $R_1 = 521 \Omega$ , if the voltage at point A is 3.96 V,

a) Calculate  $R_T$ .

b) Thermistors often give erroneous readings due to self-heating (the measured temperature is hotter than the true temperature because of resistive heating). What is the power dissipated in the thermistor?



**1.1.2.** Given the following circuit to the right with  $R_1 = 520 \Omega$  and  $R_2 = 140 \Omega$  determine:

a) the current through each resistor.

b) the voltage at point A.

c) the power dissipated through  $R_2$ .

