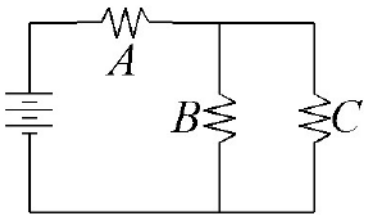
NAME _____ DATE _____

Scenario

The circuit at the right consists of three unequal resistors that represent ohmic light bulbs. Resistance A is the greatest, and C is the least.



Quantitative Analysis

PART A: Rank the resistors according to the current passing through them from greatest to least. Rank the resistors according to the magnitude of the potential difference between their terminals from greatest to least. Rank the resistors according to their brightness from greatest to least.

Greatest I		Least I	Greatest $\lvert\Delta V\rvert$		Least $\lvert\Delta V\rvert$	Greatest brightness		Least brightness

Justify your rankings.

PART B: Suppose that $R_A = 4R_C$ and $R_B = 2R_C$. The rate at which energy is being delivered to Resistor C is P_C.

i. Calculate the rate at which energy is delivered to Resistor B, P_B, in terms of P_C.

ii. Calculate the rate at which energy is delivered to Resistor A, P_A, in terms of P_C.
