HOMEWORK for JUNE 30, 2005

For the following circuits, draw the circuit and fill out the $R - I - \Delta V - P$ table (including the battery or batteries). Also mark a point between each pair of circuit elements (resistors or batteries) and determine the electric potential at that point; let the negative terminal of the largest battery be set at zero potential. Also indicate the direction of the electric current in each circuit.

1. A series circuit consisting, in order, of a 5-Ω resistor, a 22-volt battery going $+$ to $-$, and a 6-Ω resistor.

2. A series circuit consisting, in order, of a 40-V battery going $+$ to $-$, a 1-Ω resistor, a 3-Ω resistor, a 16-V battery going $-$ to $+$, and a 4-Ω resistor.

3. A 14-V battery going $+$ to $-$, a 1-Ω resistor, a 20-V battery going $-$ to $+$, a 2-Ω resistor, a 16-V battery going $+$ to $-$, and a 3-Ω resistor.