NAME _____ DATE _____ CLASS _____

Section 20-2

HOLT PHYSICS

Concept Review

Resistors in Series or in Parallel

For each item, sketch a schematic diagram of the circuits and label the components properly.

1. A 12.0 V battery is connected to two resistors in series: $R_1 = 12.00\ \Omega$, $R_2 = 4.00\ \Omega$.

a. Find R_{eq}, the equivalent resistance in this circuit.

b. Find the current in the battery and the current in each resistor.

c. What is the potential difference, ΔV_{eq}, across the equivalent resistance? What is ΔV across each of the resistors?

2. A 12 V battery is connected to two resistors in parallel: $R_1 = 12.00\ \Omega$, $R_2 = 4.00\ \Omega$.

a. Find R_{eq}, the equivalent resistance in this circuit.

b. Find the potential difference, ΔV_{eq}, across the equivalent resistance.

c. What is the current in the equivalent resistance? What is the current in the battery? What is the current in each resistor?

d. What is the potential difference across each of the resistors?