

Astronomy Ranking Task: Ohm's Law

Exercise #1

Description: There are six circuits, labeled A – F, each with one battery and one resistor. The batteries and resistors have the voltages and resistances as indicated below.

A: 12 V & 6 Ω

B: 6 V & 2 Ω

C: 12 V & 2 Ω

D: 6 V & 4 Ω

E: 12 V & 4 Ω

F: 6 V & 6 Ω

A. Ranking instructions: Rank the amounts of current flowing through each of the circuits.

Ranking Order: Greatest 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ Least

Or, each circuit has the same amount of current flowing through it. _____ (indicate with a check mark)

Carefully explain your reasoning for ranking this way:

B. Ranking instructions: Rank the amounts of power dissipated by the resistors.

Ranking Order: Greatest 1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ Least

Or, each resistor dissipates the same amount of power. _____ (indicate with a check mark)

Carefully explain your reasoning for ranking this way:
