

Name _____
Honors Physics
Period _____

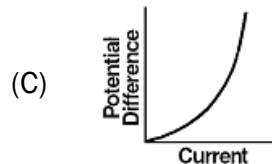
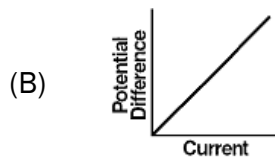
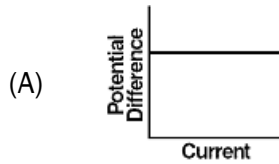
B

Ohm's Law

Date _____
Electric Circuits WS #2H
Mrs. Nadworny

Directions: Read online textbook pages 700 – 703. Solve the following problems using the GUESS method and proper significant figures. Be sure to show ALL work.

1. Which graph best represents the relationship between the potential difference across a conductor and the current through the conductor at constant temperature?



2. A 6.0 ohm resistor that obeys Ohm's Law is connected to a source of variable potential difference. When the applied voltage is decreased from 12 V to 6.0 V, the current passing through the resistor
- (A) is doubled (B) is quadrupled (C) is halved (D) remains the same
3. A prototype electric car is powered by a 312 V battery pack. What is the resistance of the motor circuit when 2.8×10^5 C passes through the circuit in 1.00 h?
4. A team from Texas A&M University has built an electric sports car with an enormous maximum motor current. Determine this current if it can be provided by a 720 V power supply and the circuit resistance is 0.30Ω .
5. When a 71Ω resistor is connected to a battery, the current in the circuit is 0.44 A. What is the potential difference of the battery?
6. An automobile headlight with a resistance of 25Ω is placed across a 9.0 V battery. What is the current through the circuit?

Answers in size order: 0.36, 4.0, 31, 2400