Practicing Calculating Ohm’s Law

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| 1. An automobile headlight has an average resistance of 24 Ω. Car batteries provide a potential difference of 12 V. What amount of current passes through the headlight? *(I* = 0.48 A) | 2. In a portable radio, 0.50 A of current are flowing through a conductor that provides 18 Ω of resistance. What potential difference is provided by the battery? (9.0 V) |
| 3. A clothes dryer uses a 220 V power source. The coils of the heater provide an average resistance of 12 Ω. What amount of current is flowing through the heating coils? (18.3 A) | 4. An automobile headlight has a resistance of 40Ω when attached to a standard 12 V battery. How much current flows through the headlight? (0.30 A) |
| 5. Only 2.5 × 10−3 A of current pass through a portable CD player. If the CD player is operated by a 9.0 V battery, what is the resistance within the circuit?3600 Ω | 6. A 9.0 V battery maintains a current of 3.0 A through a portable radio. What is the resistance of the conductor? 3.0 Ω |
| 7. What is the resistance of a hair dryer plugged into a 110 V outlet with a 10 A current flowing through it? 11 Ω | 8. A light bulb will allow 0.50 A to flow through it. If the outlet provides a potential difference of 110 V, how much resistance is provided by the bulb? 220 Ω |
| 9. A portable CD player, operating with four 1.5 V batteries connected in series, provides a resistance of 15 000 Ω. What amount of current is flowing through the CD player? (0.0004 A) | 10. An electric motor has an operating resistance of 25 Ω when a 4.8 A current is flowing through it. What is the potential difference of the outlet the motor is plugged into? (120 V) |
| 11, What is the current reading in the ammeter in this circuit?001 - Copy (2).jpg | 12. Draw a circuit that has two 1.5 V batteries in series, a 0.5 Ω resistor, a switch and an ammeter.What is the current reading in the ammeter? |