

Name: _____

Date: _____

11.2

Electrical Power and Energy Problems

1. An electric toy uses 1620 J of energy from a 3.0 V battery in a time of 15 min. What was the power delivered by the battery?
2. During its lifetime, a 100 W light bulb uses about 1.1×10^9 J of energy. How many hours will the light bulb last?
3. A 2000 W stove element is used for 5 min. How much electrical energy does the element use?
4. A water heater is connected to 240 V and has a current of 18 A when it is heating water. What is the power of the heater?
5. A 14 W light bulb is connected to a 12 V power source. What is the current in the light bulb?
6. A 130 W electric can opener has a current of 1.1 A. What is the voltage in the can opener?
7. A resistor has a current of 140 mA and a voltage of 2.8 V. How much electrical energy does the resistor convert to thermal energy in 8 min?