**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Electrical Power and Energy**

**Instructions: Complete the following problems below. Be sure to show your work and label with the correct units (3 points each)**

1. A current of 5.0 A flows through a flashlight bulb when it is connected to 6.0 V. What is the power of this bulb?
2. A 600 W electric heater is connected to a 120 V source. What current flows through the heater?
3. A 2.5 A current flows through a 100 W lamp. What is the voltage across the lamp?
4. How much energy is consumed by a 120 W light bulb if it is left on for 15 min?
5. A portable hair dryer is plugged into a 110 V outlet and has a current of 10 A flowing through it. How much power is the hair dryer using?
6. A meter reader determines that a business has used 3550 kWh of energy in two months. If electricity costs 10¢ per kWh, calculate the bill.
7. An electric heater draws 1100 W of power. Electricity costs 8¢ per kWh. How much does it cost to operate the heater 3.0 h a day for 30 days?
8. A DVD player that is not being used still uses energy at a rate of 25 W. What current is passing through it if the DVD player is plugged into a 110 V electrical outlet?
9. Calculate the power of the light bulb in the circuit shown below.



1. A microwave oven operates on 1500 W of power and is used for 20 minutes. How much electrical energy is used by the microwave oven?