**Lesson 9 SDL Worksheet**

1. The UL panel on the bottom of an electric toaster oven indicates that it operates at 1500 W, on a 110 V circuit. Determine the electrical resistance of the toaster oven.
2. A steady current of 0.3 amp passed through a lamp for 2 minutes. The voltage of the supply was 6.0 volt.
   1. What is the resistance of the lamp filament?
   2. What quantity of electricity passed through the lamp?
   3. What power was dissipated in the lamp?
3. A hairdryer has a power rating of 2200 W. Calculate the value of:
   1. current
   2. resistance

when we connect the hairdryer to the mains with a voltage of 230 V.

1. Compare the resistance of a 1.5 A interior light bulb of a car (operating off a 12 V battery) to the resistance of a 100 W bulb operating on a 110 V household circuitry.
2. An overhead high voltage (4.0x105 V) power transmission line delivers electrical energy from a generating station to a substation at a rate of 1500 MW (1.5x109 W). Determine the resistance of and the current in the cables.