## DO NOT WRITE ON THIS PAPER

## Energy and Cost Practice

Directions: show all work on a separate sheet of paper. Write the givens, show the formula, plug in numbers, calculate an answer, write with units, and circle your answer. Answers are in bold so you can check your own work. *Assume 120 volts for anything plugged into a wall.* 



1) Mrs. Olsen leaves her 0.8 kW electric coffee maker on each day as she heads off to work at 7am.because she likes to come home to a hot cup of coffee at 5pm.

a) If the electric company charges Mrs. Olsen \$0.10 per kWh, how much does running the coffee maker all day cost her? **\$0.80** 

b) What is the yearly cost to run the coffee maker (250 work days)? \$200

- 2) How much energy is used when a 120 kW appliance is used for 4 hours? (unit for energy is kW-hr) 480 kW-hrs
- 3) A TV has a power rating of 440 W. If it uses 2.68 kW-hrs of energy, how long has the TV been on? 6 hrs
- 4) How much does it cost to light five 100 W light bulbs for eight hours if the price of electricity is \$0.09 per kilowatt hour? **\$0.36**
- 5) An electric clothes dryer uses 5kW of electric power. How long did it take to dry the clothes if electric power costs \$0.09 per kWh and the cost of running the machine was \$0.26? **0.57 hrs or (34 min)**
- 6) Compare the energy used by a 100 W light bulb for 10 hours and a 1200 W hair dryer used for 0.25 hours? **1 kW-hr/0.3 kW-hr**
- 7) How much energy (kWhr) is being used to run a 900 W microwave for 0.25 hours? 0.22 kW-hr
- 8) If your oven takes 2500 Watts and uses 15 kWh of energy to cook a thanksgiving turkey, how much time was your oven running for? **6 hours**
- 9) Your air conditioner uses 3500 W and runs for 8 hours in the day and DTE charges an average of \$.08/kWh.
  - a) How much does it cost per day to run that air conditioning? \$2.24
  - b) How much would it cost to run for a 31 day month? \$69.44
- 10) While writing this book, the author spent about 800 h working on her personal computer that has a power input of 70 W. Also 45 additional hours were spent with the 70 W computer and the 240 W printer running.
  - a) How much did it cost for the energy use of all the time for those devices, at a cost of \$0.10 per kWh? \$6.99