CHAPTER 7
PROBLEM SOLVING | **Turn Off That Light!**   **BLM 7-7**

Goal • Use this page to calculate the cost of electricity in several situations

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Think About It

• Have you ever been told to turn off the lights in your room when you leave? This is because energy costs money. You have to pay for the gasoline for your car, and you have to pay for the electricity used by your lights and appliances.

The cost of electricity varies. In rural areas, electricity often costs more than in cities, because the electric companies have to use longer wires to service fewer people. Businesses, industries, and homes are charged different rates. How much do you think it costs to run some common appliances or complete some simple tasks? Complete this worksheet to find out.

What to Do

• Use the following information to answer the questions.

Assume that electricity costs 8¢/kW•h. This means that if a 1000 W appliance were left on for 1 hour, it would use 8¢ worth of electricity.

$$\text{Cost} = \text{number of kilowatts} \times \text{number of hours} \times 8¢$$
$$= \text{number of watts} \div 1000 \times \text{number of hours} \times 8¢$$

1. What is the cost of electricity in each of the following situations? Show all of your work.
   (a) A 100 W light bulb is left on from 10:00 p.m. to 7:00 the next morning.

   (b) A turkey takes 3 hours to cook in a 1500 W oven.

   (c) You watch a 500 W television set for 7 hours.

PROBLEM SOLVING   **Turn Off That Light!** (continued)

Going Further

Lee's family has a summer cottage. They usually close down their cottage for the winter, and turn off the electricity. One year, they left the cottage on October 8, and returned on May 22. Unfortunately, they had left a 1 kW heater on. Assuming that the heater ran about half the time, approximately how much did this little mistake add to their electricity bill?