

Section

19-3

HOLT PHYSICS

Concept Review*Electric Power*

1. A food processor draws 8.47 A of current when connected to a potential difference of 110 V.

a. What is the power consumed by this appliance?

b. How much electrical energy is consumed by this food processor monthly (30 days) if it is used on average of 10.0 min every day?

c. Assume that the price of electrical energy is 7.00 ¢/kWh. What is the monthly cost of using this food processor?

2. The electric meter in a house indicates that the refrigerator consumes 70.0 kWh in a week.

a. What is the power consumption of the refrigerator?

b. Assuming it is connected to a potential difference of 120 V, how much current does the refrigerator draw?

3. The heating element of an electric broiler dissipates 2.8 kW of power when connected to a potential difference of 120 V.

a. What is the resistance of the element?

b. How much current does the broiler draw? Use two ways to find out, and verify your answer.