

## Section

**19-2**

## HOLT PHYSICS

**Concept Review***Resistance*

1. The label on a small heater specifies its electric performance as 115 V, 4.50 A.

a. What is the resistance of the heating filament in this heater?

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b. How much current will it draw when connected to the following:

• 120 V \_\_\_\_\_

• 220 V \_\_\_\_\_

• 60.0 V \_\_\_\_\_

• 10.0 V \_\_\_\_\_

2. Three resistors are available for testing a 9.00 V battery. Resistor A has 5.00 k $\Omega$  of resistance, resistor B has 5.00  $\Omega$  of resistance, and resistor C has 0.0500  $\Omega$  of resistance.

a. How much current will each resistor draw?

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b. Which resistor is more useful for testing if the battery is dead? Explain.

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3. An electrical device of 37.2  $\Omega$  resistance performs best when the current is 3.62 A. How much voltage should be applied?

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4. An electronic device performs best with a 1.20 V battery, when the current is between 3.50 mA and 4.20 mA. What is the range of possible resistances for this electronic device?

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