Name_____ Date_____ Period_____

Unit 14

Circuits Practice Test

Form P

1. What is meant when someone says the circuit is “open” or “closed”?

2. Where do the charges come from in an electric circuit?

3. In a circuit, what is the purpose of…
    a. a battery?

    b. a resistor?

4. Do batteries supply AC or DC? What is the difference between them?

5. How much power is dissipated by a 500 Ω resistor with a current of 0.040 A running through it?

6. Draw a series circuit containing a 6-v battery, a 3-Ω resistor, a 6-Ω resistor, and another 6-Ω resistor.

    a. How much current is flowing through the 3-Ω resistor?

    b. How much power is dissipated by the 3-Ω resistor?

7. Draw a circuit using the same battery and resistors as above, but with everything in parallel.

    a. How much current is flowing through the 3-Ω resistor?

    b. How much power is dissipated by the 3-Ω resistor?

8. If the 3-Ω resistors in Questions 6 and 7 were actually 3-Ω light bulbs, which one would be brighter? Explain

9. Use the information given in the circuit diagram in Figure 1 below to find the following:

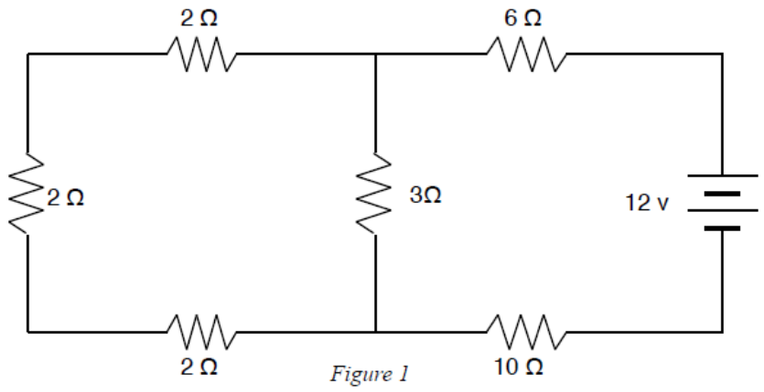

Figure 1

   a. How much current flows through the battery?

   b. What is the voltage drop across the 3-Ω resistor?

   c. What is the power dissipated by one of the 2-Ω resistors?

10. After the battery has been connected for a reasonably long time to the circuit shown in Figure 2 below…

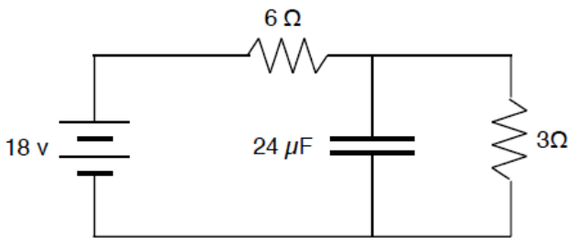

Figure 2

   a. What is the current in the 6-Ω resistor?

   b. What is the voltage drop across the capacitor?

   c. What is the charge on the capacitor?