AP Physics 2: Circuit Worksheet It’s Super Coo, Fo Sho!

1. What is the power dissipated in the 10.0Ω resistor, R2, in the circuit below at steady state?

 V=5.0V

 C1=5.0 μF

 40.0Ω

 R2=10.0Ω

2. Consider the circuit below.

100V 6 μF

20μF 20 μF

8 μF 2 μF

 6 μF

 10 μF

a. What is the equivalent capacitance of the circuit?

b. What is the charge stored on each of the 6 μF capacitors at steady state?

c. What is the voltage of the 10 μF capacitor at steady state?

3. Consider the circuit shown below.

 **4.0Ω 4.0Ω**

 **18μF**

 **24.0V 8.0Ω 8.0Ω**

 **9.0μF**

a. How much current flows in this circuit when the switch is closed?

b. What is the steady state current in the circuit?

c. How much energy is stored by the 9.0µF capacitor at steady state

4a. What is the equivalent resistance of this circuit at the instant the switch is closed?

b. What is the equivalent resistance of this circuit at steady state?

c. What is the current in the 18Ω resistor as the switch is closed?

d. What is the current in the 18Ω resistor at steady state?

 2.0mF

6.0V

 18Ω 3.0Ω 12Ω

 4.5Ω

5a. What is the equivalent resistance of this circuit at the instant the switch is closed?

b. What is the equivalent resistance of this circuit at steady state?

c. How much charge is stored on the capacitor at steady state?

 14µF

6.0V

 6.0Ω 12Ω

 4.0Ω