

Name _____
Honors Physics
Period _____

Date _____
Electric Circuits WS #7H
Mrs. Nadworny

RC and Combined Circuits

Directions: Read online textbook pages 746 – 751. Solve the following problems using the GUESS method and proper significant figures. Be sure to show ALL work.

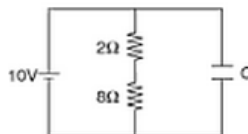
1. A capacitor is made of two charged parallel plates of area A that are separated by a distance d , and it has a capacitance of C .
 - a. What happens to the capacitance when the area of the plates is tripled?

 - b. What happens to the capacitance when the distance is doubled?

2. A 12 V battery is connected in series to a 3 ohm resistor and an initially uncharged capacitor.
 - a. Determine the current in the circuit immediately after the battery is connected to the resistor and capacitor.

 - b. Determine the current in the circuit a long time later.

3. A circuit is set up so a 2 ohm and an 8 ohm resistor are in series with each other and in parallel with a capacitor and a 10 volt cell, as shown.



- a. Determine the current in the 2 ohm resistor immediately after the battery is connected to the circuit.

- b. Determine the current in the 2 ohm resistor a long time later.

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