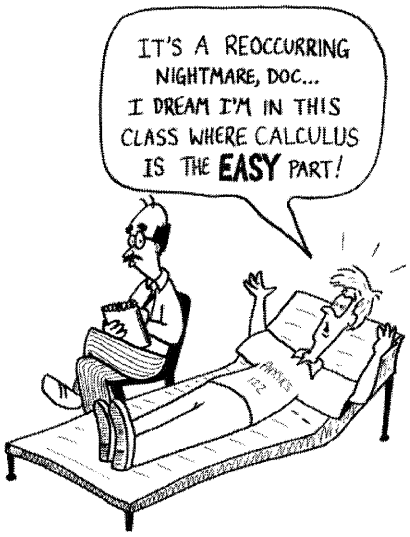
AP 2 Capacitors WS 4

Name: _____ _____ Period: _____



A single Dallas Cowboys football game uses up as much electricity as the entire nation of Liberia in those same three hours - one reason the globe, if looked at from a certain height, is a cluster of lights surrounded by enormous patches of dark.

Pico Iyer

1. Capacitors in series have the same (a) voltage, (b) charge, or (c) energy storage.

2. Capacitors in parallel have the same (a) voltage, (b) charge, or (c) energy storage.

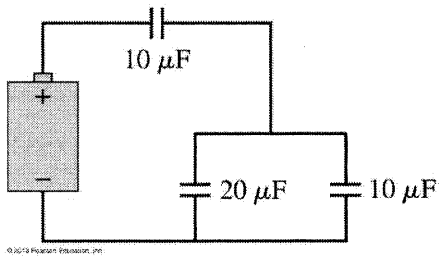
3. Under what conditions would two capacitors in series have the same voltage?

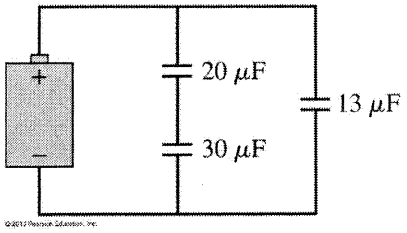
4. Under what conditions would two capacitors in parallel have the same charge?

5. You need a capacitance of 50 μF, but you don't happen to have a 50 μF capacitor. You do have a 30 μF capacitor. What additional capacitor do you need to produce a total capacitance of 50 μF? Should you join the two capacitors in parallel or in series?

6. You need a capacitance of 50 μF, but you don't happen to have a 50 μF capacitor. You do have a 75 μF capacitor. What additional capacitor do you need to produce a total capacitance of 50 μF? Should you join the two capacitors in parallel or in series?

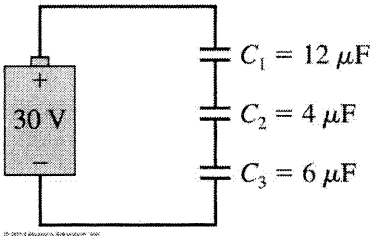
7. What is the equivalent capacitance of the three capacitors in the figure?

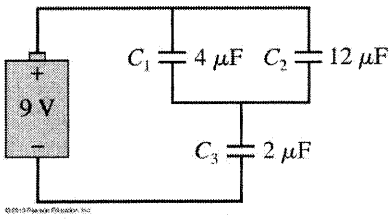




8. What is the equivalent capacitance of the three capacitors

9. What are the charge on and the potential difference across each capacitor in the figure?





10. 54. What are the charge on and the potential difference across each capacitor in figure P29.54?

11. What ~~are the charge on and the potential difference~~ across each capacitor in the figure.