PreAP: Due: Tues. Jan 24 (Assigned: Fri. Jan 20)
Reg: Due: Wed, Jan 25 (Assigned: Mon, Jan 23)

Electricity 7

1. Fuse	a. Current that moves in only one direction.
2. Direct Current	b. Current that reverses direction through a wire.
3. Ground Fault Interrupt Circuit	c. A device that detects too much current and must be replaced.
4. Alternating Current	d. A device that detects too much current and can be reset.
5. Circuit Breaker	e. A specialized wall plug that detects loss of current and turns off to protect against electrocution.

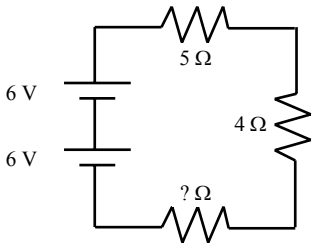
6. Connect the light and battery correctly so that it will light.

7. What is the maximum charge that can flow through a 30 amp fuse in 30 seconds?

8. Multiply these number by hand following these steps: $\frac{(4 \times 10^{6})(3 \times 10^{-3})}{(2 \times 10^{-12})} =$

A. Calculate the top B. Simplify the numbers C. Bring bottom 10 to top D. Final Answer

9. Find the third resistor if the current is 0.5 A.



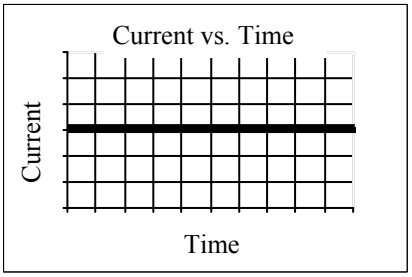
10. List the three ways to increase capacitance.

11. You are cooking on Thanksgiving. The turkey will be in the oven for 4 hours. The stove uses 5,000 watts of power and electricity is $.12 per kWh. What is the cost of cooking dinner?

12. AC or DC current?

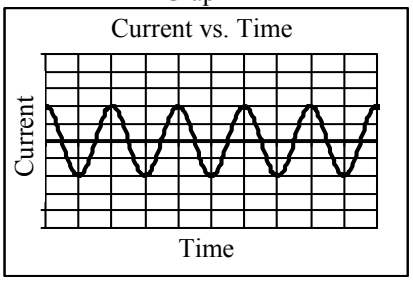
A. ____ Current that changes polarity.
B. ____ Current that is constant.
C. ____ What comes from a battery.
D. ____ What comes from the power outlet.
E. ____ Graph A
F. ____ Graph B.

Graph A



13. How much charge is held on a 4 μF capacitor with a 12 v battery?

Graph B



14. How far apart are the 0.4 m^2 plates of 6 Farad capacitor?

15. Which would make a better dielectric (check notes for Electricity 6).
Metal or glass? Glass or plastic? Glass or air?

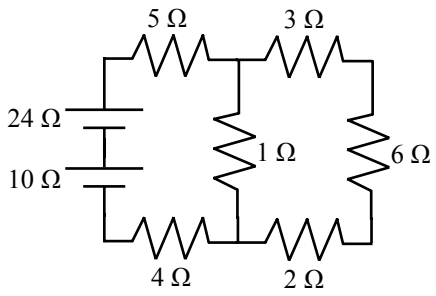
16. If you put a 2 Ω and a 5 Ω light in series, which one will be brighter?

17. Why?

18. If you put a 2 Ω and a 5 Ω light in parallel, which one will be brighter?

19. Why?

20. Redraw the circuit so that parallel branches are parallel (like we did in class).

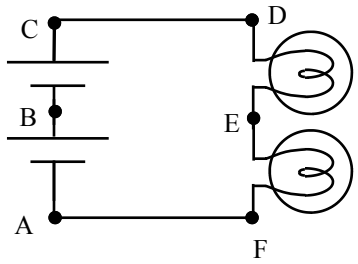


21. Find the total resistance for the 3, 6 and 2 Ω resistors.

22. What is the total voltage?

23. Find the total resistance of the circuit.

24. Using the circuit at the right, answer the following (the batteries are D-cells).
    A. What is the voltage from C to D?
    B. What is the voltage from A to B?
    C. How does the current compare at D and at F?
    D. How does the current compare at B and at C?



25. Absorption (A), Reflection (Rl), Refraction (Rf), or Diffraction (D)?
    More Help: Website Quiz: Physics Study Helps/ Harmonic Motion/ Wave Interactions
    OR READING IS FASTER: Website/ Worksheets/ Harmonic Motion/ Worksheet 12:2 (Wave Actions)
    A. _____A wave hits a hard wall and bounces off.
    B. _____A wave hits a soft boundary, and dies.
    C. _____A wave bends around a corner.
    D. _____A wave bends at a boundary.
    E. _____How a carpet can keep a room quiet.
    F. _____Tile or marble makes for a loud room because of this.
    G. _____How eyeglasses magnify objects.
    H. _____How dark lines are formed between your almost closed fingers.
    I. _____How light comes back from a mirror.