PreAP: Due: Thurs., Jan 26 (Assigned: Tues. Jan 24)
Reg: Due: Fri., Jan 27 (Assigned: Wed, Jan 25)

Electricity 8

1. Identify the meters in Circuit A: 1: ____; 2: ____; 3: ____; 4: ____.

2. Find the total voltage.

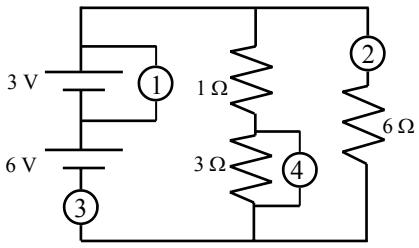
3. Find the total resistance of the circuit.

4. Find the total current of the circuit.

5. Find the current running through the 1 and 3 Ω resistors.

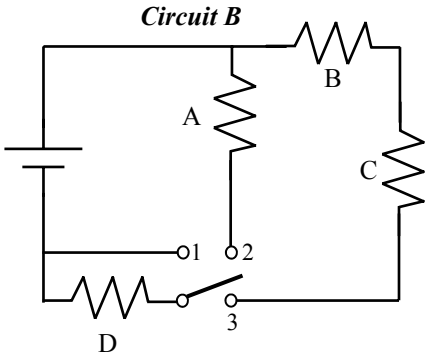
6. Find what each meter reads.

Circuit A



7. In Circuit A what is the power dissipated by the 6 Ω resistor?

Circuit B



8. In circuit B there is a 3 way switch.
   A. In which position/s will resistor A work?
   B. In which position/s will resistor C work?
   C. In which position/s will resistor D work?
   D. In which position will there not be a working circuit?

9. Draw the electric field lines that will occur between the two charges.

10. A solution that allows electricity to pass is known as: (conductor is incorrect).

11. How much force do a 2μC and a –4μC charge exert on each other?

12. With the above charges is it a repulsive or attractive force?
13. If a positive object touches ground, what happens?

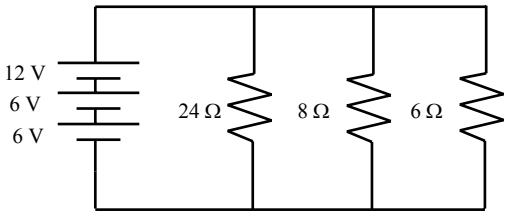
14. If a negative object touches ground, what happens?

15. What do we call electricity that causes electrons to move forward and backwards in the circuit?

16. What could we use to make the above electricity to flow only one way (looking for a device we talked about in class).

17. What is the total resistance of the circuit shown?

18. What is the total current?



19. If they were light bulbs which would be brighter?

20. What are the letters of the 4 nitrogen bases of DNA (and put them together into their pairs).

21. Do the same for RNA.

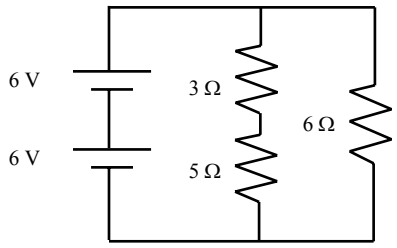
22. Given this sequence from a DNA molecule, show the sequence that a mRNA will make in _____:

    AACGTAGCC

23. Given this sequence: AGGCUAUC. What molecule can this not come from?

24. What do we call the 3 base sequence that tells the ribosome what amino acid to create?

25. Find the voltage used by the 5 Ω resistor.



26. How much charge is used by the 6 Ω resistor in 3 seconds?

27. Find the total power used in the circuit.

28. If the resistors represent lightbulbs, which will be brighter, the 3 or 5 Ω resistor?
29. Why?