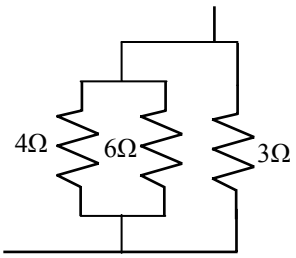
PreAP: Due: Fri. Jan 20 (Assigned: Wed., Jan 18)
Reg: Due: Mon, Jan 23 (Assigned: Thurs., Jan 19)

Electricity 6

1. Are these in parallel or series? And find the total resistance.

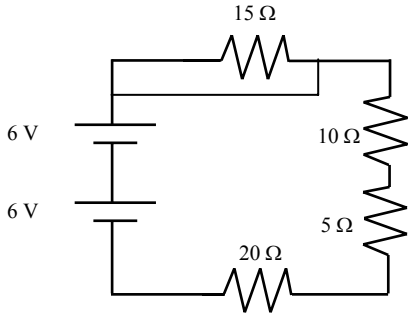


2. What size battery is needed to give 24 J of energy to a 6 coulomb charge?

3. Give two examples of capacitors:

4. Why would subwoofers (low notes) need a capacitor while the high pitched notes don't?

5. Tell me what will happen in the circuit on the right and why.



6. Find the following for the circuit (with out the extra wire)
   A. Total V
   B. Total R

   C. Total I

   D. Total P

   E. Find the voltage used by the 20 Ω resistor.

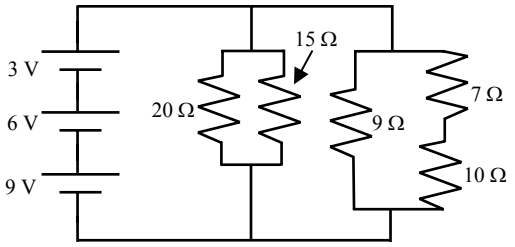
7. Find the following for the circuit on the right.
   A. Total voltage
   B. Total Resistance (helps to redraw it)

   C. Total Current

   D. Total Power

   E. Find the current going through the 7 and 10 Ω resistors.

   F. Find the voltage used by the 10 Ω resistor.



8. Circle the one with the greatest resistance (between the vertical pairs?

A 25 Ω at 25° C Or a 25 Ω at 15° C	35 Ω on a 3 m wire Or 5 Ω on a 3 cm wire	Thick wires OR Thin wires	An aluminum wire OR A copper wire

9. What do we call substance that have almost no resistance at low temperatures?

10. Why would they be useful?

11. Which of the meters is the most delicate?

12. Which of the meters do you put in parallel?

13. Which of the meters do you put in series?

14. Why are short circuits dangerous?

15. Why would stirring a water cause salt to dissolve faster?

16. Why does temperature cause a solution to usually dissolve more solute?

17. Why does crushing a substance speed up the rate of dissolving?

18. Why does electricity pass through salt water better than pure water?