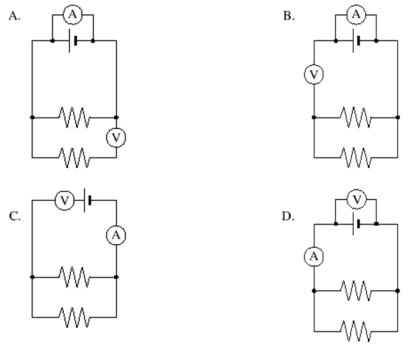
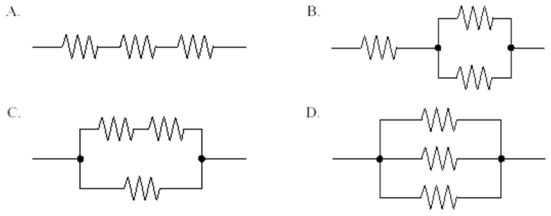
Physics 11

Circuit Practice Test

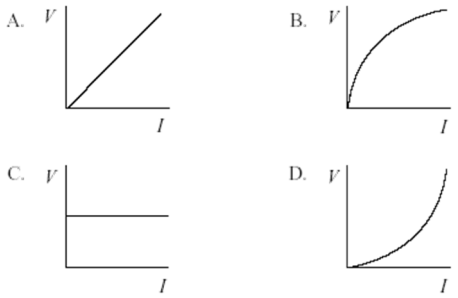
1. A 24 V power supply is connected to a 4.0 ohm resistor for 50 s. How much charge passes through the resistor? **300 C**
2. Which of the following diagrams shows an ammeter correctly placed to measure the circuit current and a voltmeter correctly placed to measure the potential difference across the battery? **D**



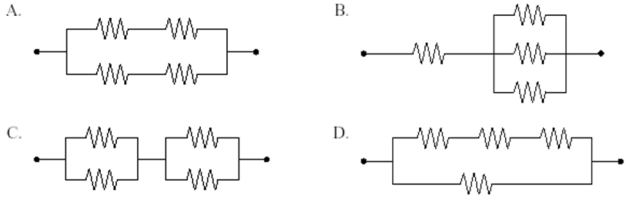
3. Current is a measure of **C**
   A. the number of charges stored in a cell.
   B. the amount of energy given to a charged object.
   C. the charge passing a point in a circuit in a given time.
   D. the resistance to the flow of charged particles in a circuit.
4. Which of the following combinations of three identical resistors has the least equivalent resistance? **D**



5. Which of the following graphs illustrates Ohm's law? **A**



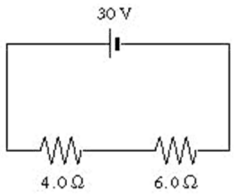
6. Which of the following arrangements would draw the largest current when connected to the same potential difference? All resistors have the same value **D**



7. A 120 V supply is connected to a heater of resistance 15 Ω. What must the resistance of another heater be in order to produce the same power output when connected to a 240 V supply? **D**

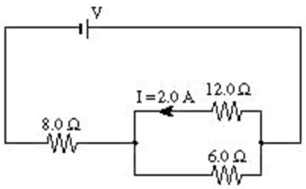
A. 3.8 ohms B. 7.5 ohms C. 30 ohms D. 60 ohms

8. What is the power output of the 6.0 ohm resistor in the diagram? **56 W**



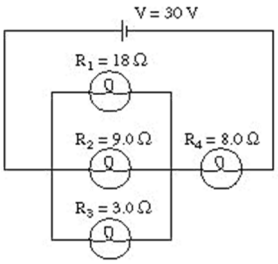
9. What is the current of the 4.0 Ohms resistor? **3.0 A**

10. What is the voltage, V, of the power supply shown in the circuit? **32 V**



11. Find the power output of the 12.0 Ohms resistor. **48 W**

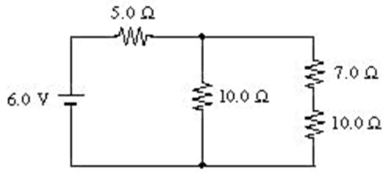
12. Find the current in the 8.0 ohm bulb shown below. **3.0 A**



13. What is the power output of the 18.0 Ohms light bulb? **2.0 W**

14. What is the current flowing pass the 3.0 Ohms light bulb? **2.0 A**

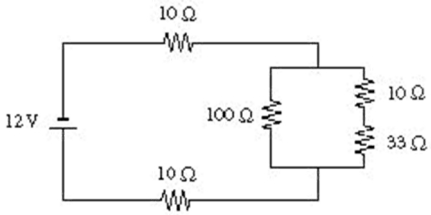
15. How much charge flows through the 7.0 ohm resistor in a 30 s interval? **5.86 C**



16. What is the voltage drop across the 10.0 Ohms resistor? **3.4 V**

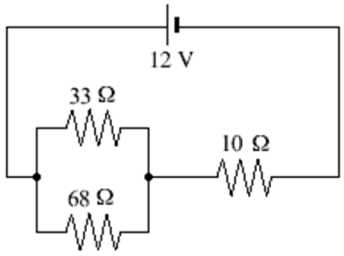
17. What is the power output of the 5.0 Ohms resistor? **1.4 W**

18. What is the power dissipated in the 33 ohm resistor in the circuit shown below? **0.93 W**



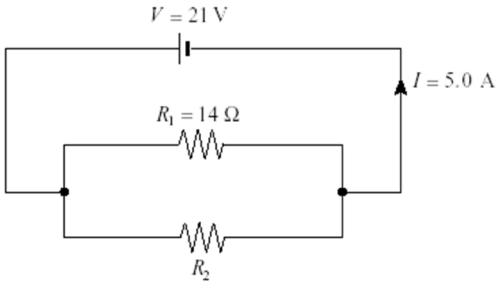
19. What is the current flowing through the 100 Ohms resistor? **0.072 A**

20. What is the current through the 10 Ohms resistor in the circuit shown below? **0.37 A**

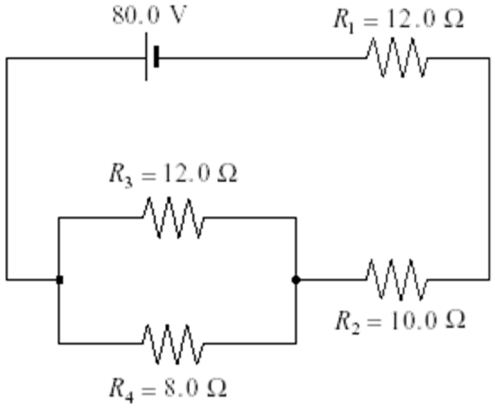


21. Find the power output of the 68 Ohms resistor. **1.0 W**

22. Find the current flowing through resistor R_2 in the circuit shown below. **3.5 A**



23. What is the power dissipated in the 8.0 Ohms resistor in the circuit as shown? **25.5 W**



24. What is the resistance of R_2? **70 Ω**