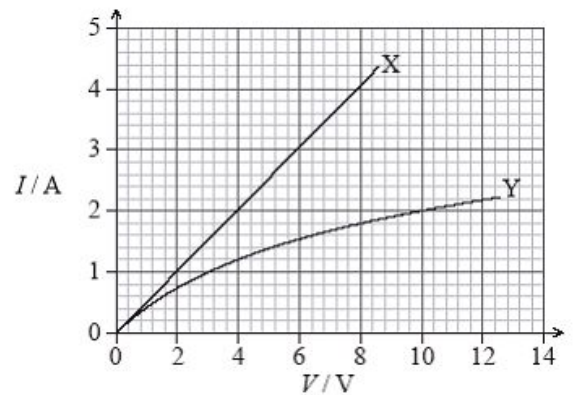


8 | Electricity | Review

Name _____ Period _____

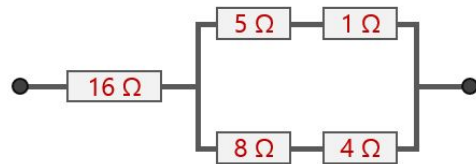
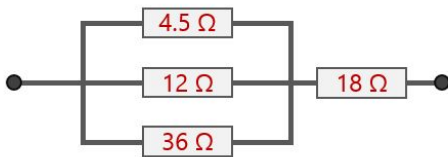
1. What does the elementary charge ($e = 1.60 \times 10^{-19}$) represent?
2. What is the current in amperes if 2.5×10^{19} electrons pass by a given point in a wire every second?
3. An aluminum wire with a diameter of 4 mm carries a current of 3 A. Find the drift speed of the electrons in the wire if there are 6.02×10^{23} electrons per m^3 .

4. When resistors X and Y are connected in series, the current in the resistors is 2.0 A. What is the resistance of the series combination of X and Y?



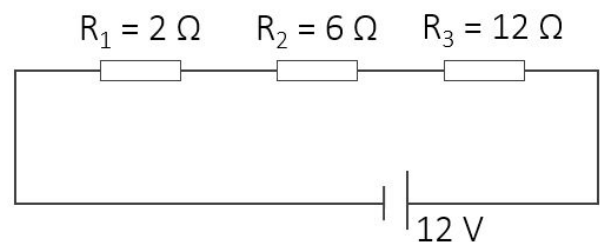
5. Base on the graph, is resistor Y consider Ohmic or Non-Ohmic?

6. Calculate the equivalent resistance for the following resistor arrangements:



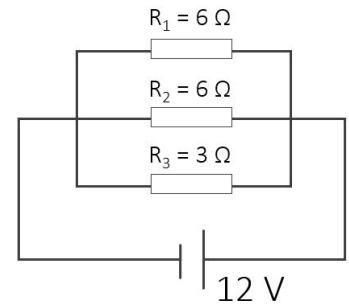
7. Solve for each resistor and complete the table for the following circuit:

	V	I	R
R_1			
R_2			
R_3			
TOTAL			



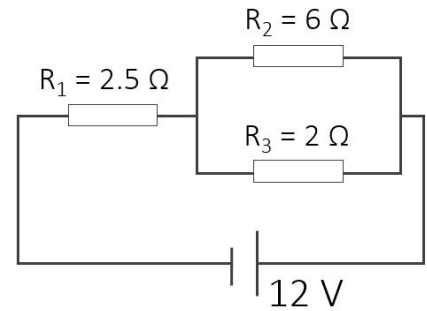
8. Solve for each resistor and complete the table for the following circuit:

	V	I	R
R_1			
R_2			
R_3			
TOTAL			



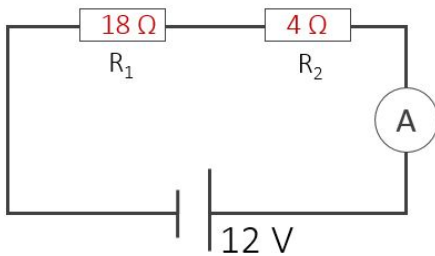
9. Solve for each resistor and complete the table for the following circuit:

	V	I	R
R_1			
R_2			
R_3			
TOTAL			

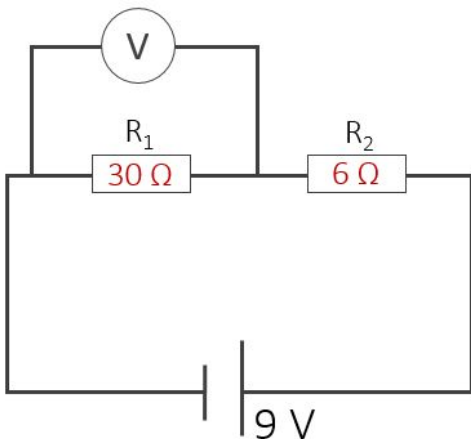


10. How much power is drawn by R_1 in the circuit above?

11. What is the current reading for this non-ideal ammeter with a resistance of $2\ \Omega$?



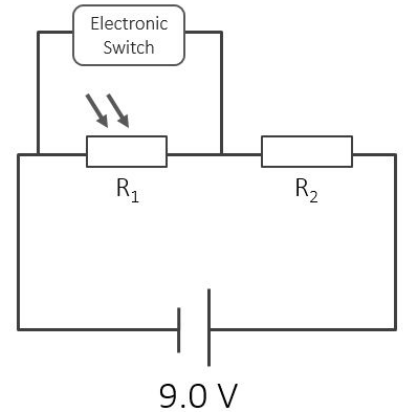
12. What is the voltage reading for this non-ideal voltmeter with a resistance of $120\ \Omega$?



13. What is the resistance for an ideal ammeter and voltmeter?

14. A resistor of resistance 1.5Ω is made from copper wire of radius 0.18 mm . The resistivity of copper is $1.7 \times 10^{-8} \Omega \text{ m}$. Determine the length of copper wire used to make the resistor.

15. A light-dependent resistor (LDR) has $R = 50 \Omega$ in bright light and $R = 10,000 \Omega$ in low light. An electronic switch will turn on a light when its p.d. is above 6.0 V . What should the value of R_2 be?



16. What is the emf for the battery shown?

