SNC 1D – Chapter 11 Review

Reviewing Key Terms

1. A(n) _____ cell consists of two _____ and a(n) _____.
2. The lithium ion cell in a camera is classified as a dry cell and a(n) _____.
3. If there is no current in a circuit that is attached to a source of electricity, it is a(n) _____.
4. The _____ is a unit that is equivalent to a coulomb per second.
5. Any device that transforms electrical energy into heat or other forms of energy is called a(n) _____.
6. In a(n) _____, the current divides _____ among different pathways.
7. The ratio of potential difference to current is called _____.
8. The difference between a wet cell and a dry cell is _____

   _____
9. The difference between a cell and a battery is _____

   _____
10. A fuel cell is different from other types of cells because _____

    _____
11. A secondary cell is a renewable source of energy because _____

    _____.
12. Static electricity is an electric charge that _____

    _____

    Current electricity is an electric charge that _____
13. Use the chart to determine which wire has a higher resistance.

	Wire 1	Wire 2	Which Has More Resistance?
Length of Wire	long	short	
Diameter	thin	thick	
Material	silver	copper	
Overall			

14. The current in a series connection travels_____, but the current in a parallel connection _____.

15. Circle ways you could increase the current in a circuit.

open some switches	add more loads in parallel	remove a cell or battery
add more loads in series	remove loads	add another cell or battery

16. State four properties of a wire that affect the resistance of the wire.

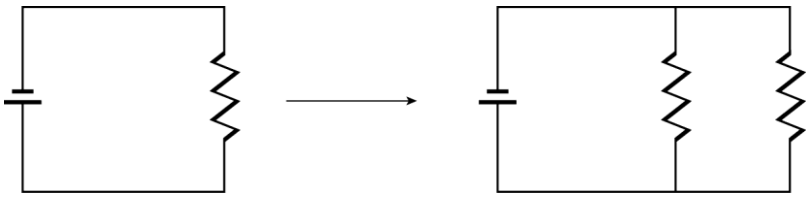
_____ _____

_____ _____

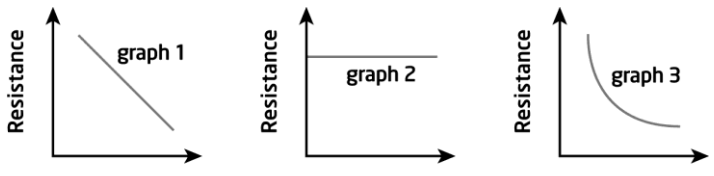
Determine if each change will increase or decrease the resistance of the wire.

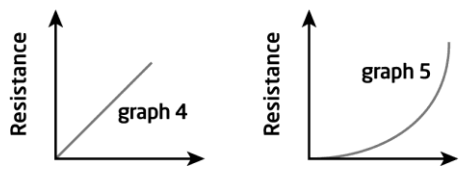
Change	Increase or Decrease the Resistance?
Increase the length of the wire	
Increase the diameter of the wire	
Using a non-metal instead of a metal to make the wire	
Increase the temperature	

17. Does adding a resistor in parallel increase or decrease the total resistance in the circuit? Why?



18. Examine the graphs below.





a. If each horizontal axis represents the length of a wire, which graph is the relationship between resistance and length? Explain your answer.

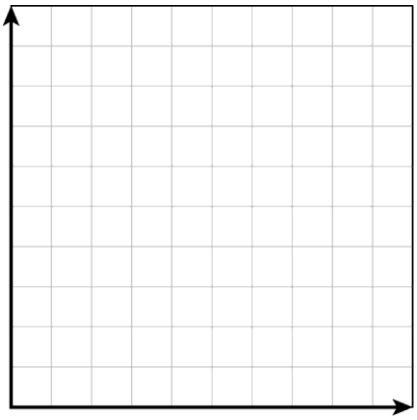
b. If each horizontal axis represents the current, which graph represents a conductor that obeys Ohm's law? Explain your answer.

19. An experiment was done on a circuit in a flashlight. The data are recorded in the table below.

a. Plot the data. Put the potential difference on the vertical axis and the current on the horizontal axis. Give your graph a title.

Measurements in a Flashlight Circuit

Number of Cells	Potential Difference (V)	Current (A)
1	1.52	0.10
2	3.01	0.15
3	4.47	0.18
4	5.99	0.20

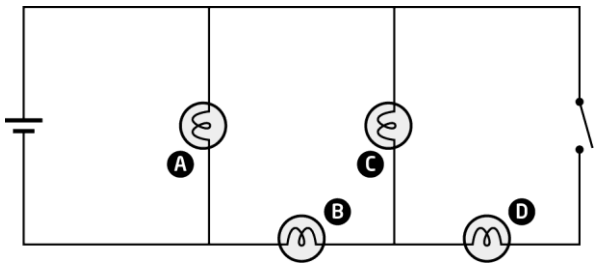


b. Draw the line of best fit for the data.

c. With one cell in the circuit, the bulb did not work. When there were four cells, the bulb glowed brightly. This is because _____.

d. The _____ of the graph is the resistance of the filament. The resistance _____ as the temperature of the filament _____.

20. Look at the circuit diagram below. Which bulb(s) will be off if the switch is in the open position? State your reasoning.



21. Two different flashlight bulbs (A and B) have filaments of the same material. The filament in bulb A is longer than the filament in bulb B. They are connected in a series to a 6 V battery. Use the correct sign (<, >, or =) to fill in the blanks.

a.	brightness in bulb A	____	brightness in bulb B
b.	current in bulb A	____	current in bulb B
c.	potential difference between the terminals in bulb A	____	potential difference between the terminals in bulb B
d.	resistance in bulb A	____	resistance in bulb B