Static Electricity Review 1

1. What are the three principles of static electricity you learned?

a) Opposite charges _____ b) Like charges _____

c) Only _____ move when charge is transferred.

2. When an object is electrically neutral the number of electrons = the number _____.

3. Name the three parts of the atom and their charge. a) _____ +1 b) _____ - 1 c) _____ neutral

4. Neutral objects become positive by _____ electrons.

5. Neutral objects become negative by _____ electrons

6. Two spheres of -1×10^{-3} C and $+7 \times 10^{-3}$ C come into contact and are separated.

a) Total charge before contact _____ b) Total charge after contact _____

c) Charge of each sphere after contact _____

d) Which way do the electrons flow when the two charges touch (left to right, or right to left) circle

7. Two spheres are side by side (not touching). One is positive and one is neutral. Draw each sphere and show how the positive sphere effects the charge distribution of the neutral body.

8. What is the purpose of the white plastic collar on an electroscope?

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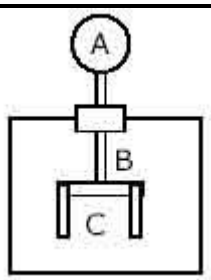
9. Where would the electrons in this neutral electroscope go if a positive rod came near? _____



10. Where would the electrons in this neutral electroscope go if a negative rod came near? _____

11. If a negatively charged rod touched this neutral electroscope and then was removed, what would the charge be at

A _____ B _____ C _____ ?

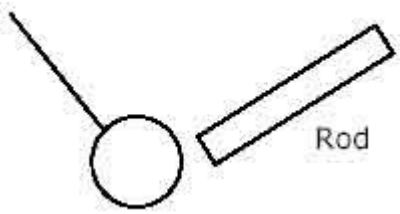
12. If a positively charge rod touched this neutral electroscope and then was removed, what would the charge be at

A _____ B _____ C _____ ?

13. Why do the leaves of a charged electroscope diverge?_____

14. Where does the charge move when you touch the top of a negatively charged electroscope with your finger. (positive electroscope?)

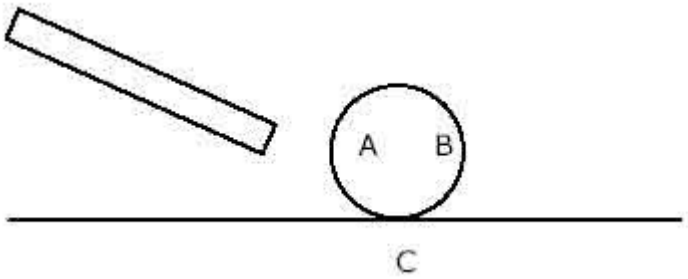
15. Show the electron arrangement of the neutral pith ball near a negative rod shown on the below.



a) What would happen if a negative rod touched a neutral pith ball?

_____

16. What would the charge be on a neutral coke can placed on a table if a negatively charged rod came near?



a) What would the Coke can in the picture above do when a negatively charged rod came near?

17. A large charge called A is next to a small charge called B. Compare the electrical force of A on B with the force of B on A. (Hint - Remember what Newton would say)

18. What is the mathematical relationship between force and distance for two spherical charges? (see Coulombs Law Equation)

a) What would the shape of the plot of F vs. d look like for two spherical charges.