Mr. Holeman | Unit 2 Study Guide | 2012

Name: Peter Lehmber Date:_____ Period:_____

Answer the following questions on the back side of this handout.
Full completion will equal 10 points on the test.
I WILL NOT BE CURVING THIS TEST!

1. What is the law of conservation of matter?
2. How can you use a chemical property or a physical property to distinguish between two materials?
3. Give two examples of chemical properties.
4. Give two examples of physical properties.
5. Why are non-metals not good to use for wiring?
6. Decide whether each grouping of three elements belongs to the same chemical family. If not, circle the element that does not belong with the other two.

a. Sodium, potassium, magnesium b. Helium, neon, argon

7. Make an atom inventory, and then balance the equations (if necessary).

a. $Pb + HNO_3 \rightarrow Pb(NO_3)_2 + H_2$ b. $Al + ZnCl_2 \rightarrow Zn + AlCl_3$

8. Calculate the molar mass for each of the following molecules:

a. KOH b. N_2O_2 c. $Sr_3(PO_4)_2$

9. Convert each of the following from grams to moles:

a. 15.0 g C_2H_6 b. 140.0 g NaOH

10. Convert moles to grams in each of the following:

a. 1.5 moles NH_3 b. 0.65 moles H_2SO_4

11. Convert the following to moles:

a. 3.01×10^{23} atoms Na b. 2.41×10^{24} molecules CO_2

12. Convert the following to representative particles:

a. 2.56 moles Ca b. 0.75 moles $AlCl_3$

13. The number of grams in 1.25×10^{25} molecules of aluminum oxide.
14. The number of molecules in 115 g nitrogen dioxide.
15. How do balanced chemical equations illustrate the law of conservation of matter?
16. Find the percent metal (by molar mass) in the following compound:

a. $ZnCl_2$

17. How many grams on NaOH are needed to prepare a 4M solution, in a 2L container?

SHOW ALL OF YOUR WORK!