

Name _____

Date _____ Pd _____

Chemistry – Unit 6 Worksheet 2

Balance the following equations by inserting the proper coefficients.

1. $\text{SO}_2 + \text{O}_2 \rightarrow \text{SO}_3$
2. $\text{CH}_4 + \text{O}_2 \rightarrow \text{CO} + \text{H}_2\text{O}$
3. $\text{P} + \text{Cl}_2 \rightarrow \text{PCl}_3$
4. $\text{CO} + \text{O}_2 \rightarrow \text{CO}_2$
5. $\text{CH}_4 + \text{O}_2 \rightarrow \text{CH}_3\text{OH}$
6. $\text{Li} + \text{Br}_2 \rightarrow \text{LiBr}$
7. $\text{Al}_2\text{O}_3 \rightarrow \text{Al} + \text{O}_2$
8. $\text{Na} + \text{H}_2\text{O} \rightarrow \text{NaOH} + \text{H}_2$
9. $\text{CO}_2 + \text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + \text{O}_2$
10. $\text{H}_2\text{SO}_4 + \text{NaCl} \rightarrow \text{HCl} + \text{Na}_2\text{SO}_4$

Two reactions used to get rid of sulfur dioxide, a pollutant from burning coal:

11. $\text{H}_2 + \text{SO}_2 \rightarrow \text{H}_2\text{S} + \text{H}_2\text{O}$
12. $\text{CaCO}_3 + \text{SO}_2 + \text{O}_2 \rightarrow \text{CaSO}_4 + \text{CO}_2$

13. $\text{AgNO}_3 + \text{CaCl}_2 \rightarrow \text{AgCl} + \text{Ca}(\text{NO}_3)_2$
14. $\text{HCl} + \text{Ba}(\text{OH})_2 \rightarrow \text{BaCl}_2 + \text{H}_2\text{O}$
15. $\text{H}_3\text{PO}_4 + \text{NaOH} \rightarrow \text{Na}_3\text{PO}_4 + \text{H}_2\text{O}$
16. $\text{Pb}(\text{NO}_3)_2 + \text{KI} \rightarrow \text{PbI}_2 + \text{KNO}_3$
17. $\text{CuO} + \text{NH}_3 \rightarrow \text{N}_2 + \text{Cu} + \text{H}_2\text{O}$
18. $\text{C}_2\text{H}_5\text{OH} + \text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O}$
19. $\text{C}_2\text{H}_6 + \text{O}_2 \rightarrow \text{CH}_3\text{COOH} + \text{H}_2\text{O}$
20. $\text{NO}_2 + \text{H}_2\text{O} \rightarrow \text{HNO}_3 + \text{NO}$

Write the formulas of the reactants and products - including the symbols for the state - (s), (l), (g), (aq) - then balance the equations.

1. Gaseous ammonia (NH_3) reacts with hydrogen chloride gas to form solid ammonium chloride.