

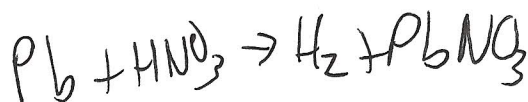
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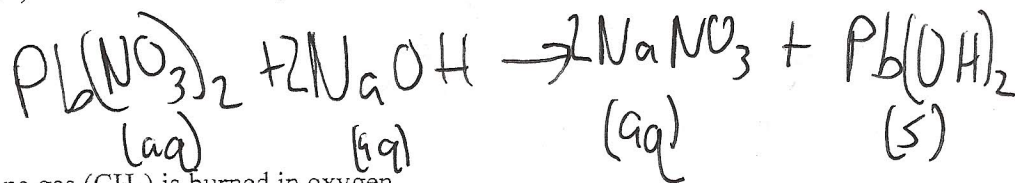
Period 1 Date 3/18/15

- a. 1. (1 point) In a chemical reaction
- the mass of the reactants equals the mass of the products. ✓
  - the mass of the products is greater than the mass of reactants. ✗
  - the number of atoms in the reactants and products must change. ✗
  - energy as heat must be added to the reactants.
- a. 2. (1 point) When a solid produced by a chemical reaction separates from the solution it is called
- a precipitate.
  - a reactant.
  - a molecule.
  - the mass of the product.
- d. 3. (1 point) What is the small whole number that appears in front of a formula in a chemical equation?
- a subscript
  - a superscript
  - a ratio
  - a coefficient
- d. 4. (1 point) In what kind of reaction do two or more simpler substances combine to form one new complex compound?
- decomposition reaction
  - ionic reaction
  - double-displacement reaction
  - synthesis reaction
- d. 5. (1 point) The reaction represented by the equation  $2\text{HgO}(s) \rightarrow 2\text{Hg}(l) + \text{O}_2(g)$  is a(n)
- single-displacement reaction.
  - synthesis reaction.
  - combustion reaction.
  - decomposition reaction.
- a. 6. (1 point) The reaction represented by the equation  $\text{Pb}(\text{NO}_3)_2(aq) + 2\text{KI}(aq) \rightarrow \text{PbI}_2(s) + 2\text{KNO}_3(aq)$  is a
- double-displacement reaction.
  - synthesis reaction.
  - decomposition reaction.
  - combustion reaction.
- C. 7. (1 point) The reaction represented by the equation  $\text{Cl}_2(g) + 2\text{KBr}(aq) \rightarrow 2\text{KCl}(aq) + \text{Br}_2(l)$  is a(n)
- synthesis reaction.
  - decomposition reaction.
  - single-displacement reaction.
  - combustion reaction.
- C. 8. (1 point) Predict the product of the reaction represented by the following equation:  
 $\text{NaI} + \text{Cl}_2 \rightarrow$
- No reaction occurs.
  - $\text{NaCl}_2 + \text{I}$
  - $\text{NaCl} + \text{I}_2$
  - $\text{NaCl}_2 + \text{I}_2$
- b. 9. (1 point) Predict what happens when calcium metal (Ca) is added to a solution of magnesium chloride ( $\text{MgCl}_2$ ).
- No reaction occurs.
  - Calcium chloride forms.
  - Magnesium calcite forms.
  - Gaseous calcium is produced.
- a. 10. (1 point) Predict what happens when lead (Pb) is added to nitric acid ( $\text{HNO}_3$ )
- No reaction occurs.
  - Oxygen is released.
  - Lead oxide forms.
  - Hydrogen is released.



For problems 11-13: write the reaction using formulas. If there is no reaction, write NR and explain why.  
 You DO NOT need to balance #11-13

11. Lead (II) nitrate and sodium hydroxide are combined.



12. Methane gas ( $\text{CH}_4$ ) is burned in oxygen.



13. Sodium carbonate decomposes.



14. Balance the reaction:  $3\text{Fe}_3\text{O}_4 + 8\text{Al} \rightarrow 4\text{Al}_2\text{O}_3 + 9\text{Fe}$

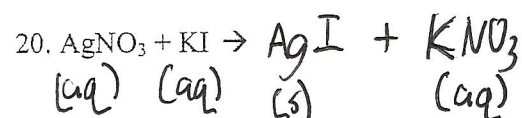
15. Balance the reaction:  $\text{NH}_4\text{NO}_2 (\text{s}) \rightarrow \text{N}_2 (\text{g}) + 2\text{H}_2\text{O} (\text{l})$

16. In the table below, think about what would happen if each compound were put into water. Write aqueous (aq) for compounds that are soluble, or would dissolve and solid (s) for compounds that are insoluble or not dissolve.

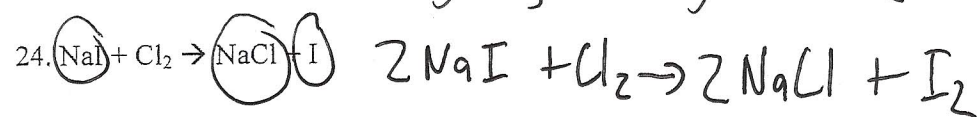
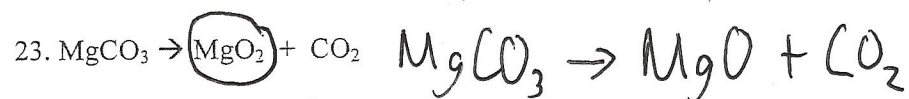
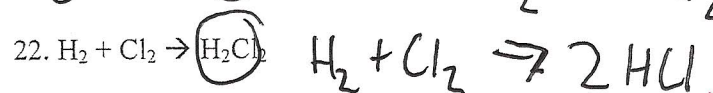
compound	solubility
$\text{Na}_3\text{PO}_4$	(aq)
$\text{Fe}(\text{OH})_3$	(s)
$\text{PbBr}_2$	(s)

compound	solubility
$\text{AlCl}_3$	(aq)
$\text{MgCrO}_4$	(aq)
$\text{Zn}(\text{NO}_3)_2$	(aq)

For problems #17-20. Predict the products for the reaction. If there is no reaction, write NR and explain why. You DO NOT need to balance.



For problems #21-24. Identify the error in each of the following reactions, rewrite the corrected reaction.



Bonus Questions:

Give the type of reaction that is indicated by question #11-15.

- 11 Double Displacement
- 12 Combustion
- 13 Decomposition
- 14 Single Displacement
- 15 Decomposition