



Chemistry 20: Unit 0 – Review

Writing and Balancing Worksheet

/73

1. For each of the following reactions, determine what the products of each reaction will be. When you have predicted the products, balance the equation and use a table of solubility products to determine the states of matter. Assume all reactions take place in water.



or (aq)

2



1ax

2



(aq)
copper (II) phosphate precipitates

2



omit.



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2. For each of the following problems, write complete chemical equations to describe the chemical process taking place. Important note: There are a few physical processes on this sheet – remember, you can't write an equation for a physical process!

- a) When lithium hydroxide pellets are added to a solution of sulfuric acid, lithium sulfate and water are formed.



- b) When dirty water is boiled for purification purposes, the temperature is brought up to 100⁰ C for 15 minutes.

2

No equation is needed, as boiling is a physical process.

- c) If a copper coil is placed into a solution of silver nitrate, silver crystals form on the surface of the copper. Additionally, highly soluble copper (I) nitrate is generated.



- d) When crystalline C₆H₁₂O₆ is burned in oxygen, carbon dioxide and water vapor are formed.



- e) When a chunk of palladium metal is ground into a very fine powder and heated to drive off any atmospheric moisture, the resulting powder is an excellent catalyst for chemical reactions.

2

Both grinding and heating are physical processes. Even if the atmospheric moisture is mentioned, boiling is still a physical process. No equation is needed.

3. Balance the following reactions and indicate which of the six types of chemical reaction are being represented:



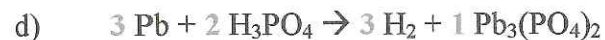
Type of reaction: double displacement



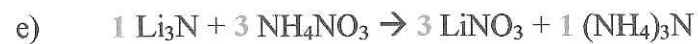
Type of reaction: synthesis



Type of reaction: combustion



Type of reaction: single displacement



Type of reaction: double displacement



clp

4. Write the word equations below as chemical equations and balance:

- 1) Zinc and lead (II) nitrate react to form zinc nitrate and lead.



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- 2) Aluminum bromide and chlorine gas react to form aluminum chloride and bromine gas.



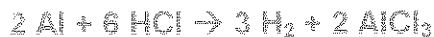
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- 3) Sodium phosphate and calcium chloride react to form calcium phosphate and sodium chloride.



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- 4) Potassium metal and chlorine gas combine to form potassium chloride.



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- 5) Aluminum and hydrochloric acid react to form aluminum chloride and hydrogen gas.



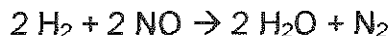
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- 6) Calcium hydroxide and phosphoric acid react to form calcium phosphate and water.



-
- 7) Copper and sulfuric acid react to form copper (II) sulfate and water and sulfur dioxide.



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- 8) Hydrogen gas and nitrogen monoxide react to form water and nitrogen gas.





Chemistry 20 Naming Acids Extra Credit Worksheet

Total /34

Part A – Write the formula and state for each acid.

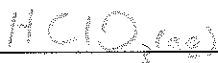
nitric acid



hydrocyanic acid



chloric acid



acetic acid



hydrobromic acid



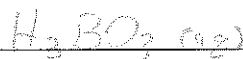
sulfurous acid



★ chlorous acid



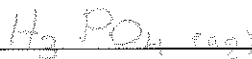
boric acid



hydrochloric acid



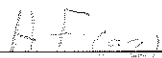
phosphoric acid



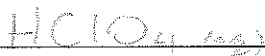
nitrous acid



hydrofluoric acid



★ perchloric acid



hydroiodic acid



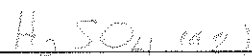
★ phosphorous acid



carbonic acid



sulfuric acid



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Part B – Write the name of each acid.

HClO_4 (aq) perchloric acid.

H_3PO_4 (aq) phosphoric acid. ✓

HCl (aq) hydrochloric acid

H_3BO_3 (aq) boric acid.

H_2SO_4 (aq) sulfuric acid.

HNO_2 (aq) nitrous acid.

HI (aq) hydroiodic acid.

CH_3COOH (aq) acetic acid

HF (aq) hydrofluoric acid

H_3PO_3 (aq) phosphorous acid

HCN (aq) hydrocyanic acid

HClO_3 (aq) chloric acid

H_2CO_3 (aq) carbonic acid

H_2SO_3 (aq) sulfurous acid.

HClO_2 (aq) chlorous acid

HNO_3 (aq) nitric acid

HBr (aq) hydrobromic acid.