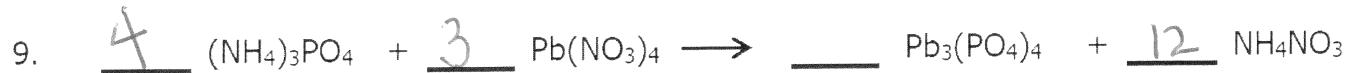
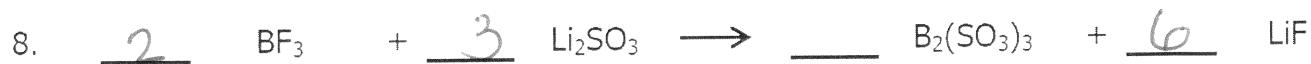
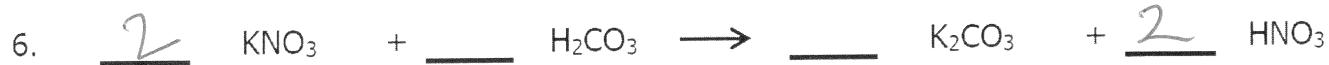
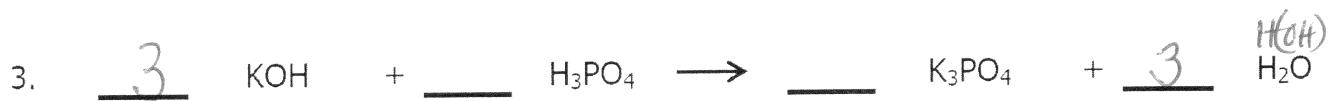


# AP Chemistry Summer Assignment

## Balancing Equations

Balance the following chemical equations.





## MOLES $\leftrightarrow$ GRAMS, MOLARITY, AND STOICHIOMETRY

- a. Use the Periodic Table included in this packet for the atomic masses. **Do not round the atomic masses.**
- b. Show cancellation of units and report the final answer with the correct unit and correct number of sig figs.

1. Convert the following to moles :

a. 36.85 g C = \_\_\_\_\_

$$36.85 \text{ g} \times \frac{1 \text{ mole}}{12.0 \text{ g}} = 3.0 \text{ mol}$$

b. 170 g O<sub>2</sub> = \_\_\_\_\_

$$170 \text{ g O}_2 \times \frac{1 \text{ mole}}{32 \text{ g O}_2} =$$

c. 24.0 g Cu = \_\_\_\_\_

d. 165.02 g H<sub>2</sub>O = \_\_\_\_\_

e. 320.0 g CaCO<sub>3</sub> = \_\_\_\_\_

f. 50.020 g Ca<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub> = \_\_\_\_\_

2. Convert the following to grams:

a. 1.20 mol H<sub>2</sub> = \_\_\_\_\_

b. 0.052 mol Ca = \_\_\_\_\_

c. 10.0 mol CO<sub>2</sub> = \_\_\_\_\_

d. 0.00650 mol AgNO<sub>3</sub> = \_\_\_\_\_

e. 1.025 mole Al<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub> = \_\_\_\_\_

5. Translate the following word equations to a balanced chemical

a. iron (II) oxide + aluminum  $\rightarrow$  iron + aluminum oxide



b. hydrochloric acid + sodium hydroxide  $\rightarrow$  water + sodium chloride



c. calcium phosphate + sulfuric acid  $\rightarrow$  calcium sulfate + phosphoric acid



d. calcium carbonate  $\rightarrow$  calcium + carbon + oxygen gas



e. sodium chloride + silver nitrate  $\rightarrow$  sodium nitrate + silver chloride



f. potassium hydroxide + sulfuric acid  $\rightarrow$  potassium sulfate + water

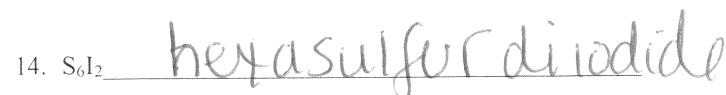
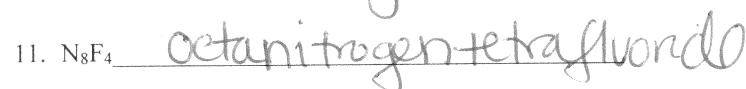
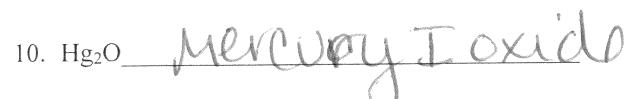
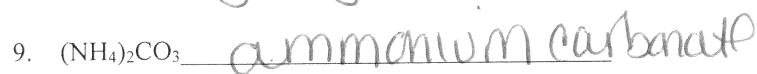
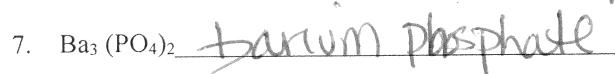
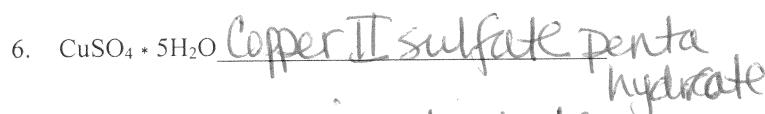
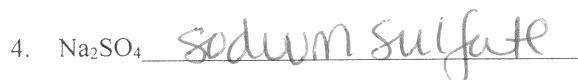
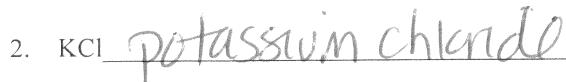


6. Identify each of the equations you balanced in #5 as **reduction-oxidation, precipitation or acid-base (neutralization)** reactions.

- a. Redox
- b. Dbl / or acid base / neutralization
- c. acid base / neutral
- d. Redox
- e. ppt / Dbl esp.
- f. neutral.

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Write the name for the following compounds.



cobalt II bromide



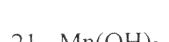
nickel II nitrate


 sodium P<sup>+</sup> nothing


disilicon iodide



titanium IV chloride



manganese II hydroxide hexahydrate



potassium chlorate



calcium fluoride



iron III bromide



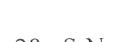
vanadium II carbonat



nitrogen tetrafluoride



lithium nitride



tetrasulfur hepta nitride



cobalt II sulfide


 ammonium nitrate  
ivm

