

Unit 7 Test
Honors Chemistry

Name _____ Block ____

Must Show Work! No Work, No Credit!

Molar Mass:

- 1.) Calculate the molar mass of ethanol.

- 2.) Calculate the molar mass of ammonium nitrate.

Percent Composition:

- 1.) Calculate the percent composition for the elements in ammonia.

- 2.) Calculate the percent composition for the elements in iron III nitrate.

Empirical Formula:

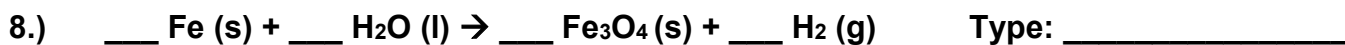
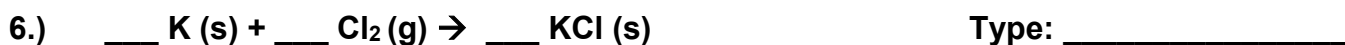
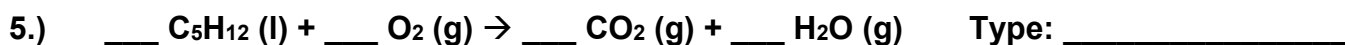
- 1.) Vanilla, a common flavoring in foods, contains 63.15% C, 5.30 % H, and 31.55 % O. Calculate its empirical formula. (x3)

- 2.) A strong oxidizer contains 25.94% N and 74.6% O. Calculate its empirical formula.

Molecular Formula:

- 1.) Phenolphthalein, an acid base indicator, has an empirical formula of $C_{10}H_7O_2$ and a molar mass of 318.32 g/mol. Calculate its molecular formula.
- 2.) An ingredient, used by the food industry to produce fruity flavors, has an empirical formula of C_2H_4O and a molar mass of 132 g/mol. Calculate the molecular formula of this compound.

Chemical Reactions:



Predicting the Products:

1. $\text{___ MgCl}_2 + \text{___ KNO}_3 \rightarrow$ _____

2. $\text{___ aluminum} + \text{___ iron (III) oxide} \rightarrow$ _____

3. $\text{___ CaCO}_3 \rightarrow$ _____

4. $\text{___ hexane} + \text{___ oxygen} \rightarrow$ _____

5. $\text{___ Al} + \text{___ O}_2 \rightarrow$ _____

6. $\text{___ hydrochloric acid} + \text{___ potassium hydroxide} \rightarrow$ _____

Activity Series

potassium	most reactive	K
sodium		Na
calcium		Ca
magnesium		Mg
aluminium		Al
carbon		C
zinc		Zn
iron		Fe
tin		Sn
lead		Pb
hydrogen		H
copper		Cu
silver		Ag
gold		Au
platinum	least reactive	Pt