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| *Review #2*CλeMis+ry: [http://genest.weebly.com](http://genest.weebly.co) Stop in for help every day at lunch and Tues &Thurs after school! |  **Supereme Court Justice Thomas** | Name\_\_\_\_\_\_\_\_\_Period\_\_\_\_\_\_\_\_ |

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| 1. When the equation

\_\_Al + \_\_CuSO4 → Al2(SO4)3 + \_\_Cuis balanced using the smallest whole-number coefficients, what is the coefficient of Al?(1) 1 (2) 2 (3) 3 (4) 41. When the equation

\_\_Cu + \_\_H2SO4 → \_\_CuSO4 + \_\_H2O + \_\_SO2is correctly balanced using the smallest integers, what is the coefficient of CuSO4?(1) 1 (2) 2 (3) 3 (4) 41. What is the formula for magnesium sulfide?

(1) MgS (2) MgSO3 (3) MnS (4) MnSO3 | 1. What is the correct name for N2O5?

(1) nitrogen oxide (2) dinitrogen pentoxide (3) nitrate (4) nitride oxide1. An unknown element *X* can form a compound with the formula XBr3. In which group of the Periodic Table would element X be found?

(1) 1 (2) 2 (3)13 (4) 141. Which group on the Periodic Table contains elements that react with bromine to form compounds with the general formula XBr2?

(1) Group 1 (2) Group 2 (3) Group 14 (4) Group 18 |

1. decide what type of reaction each is:
	1. \_\_\_\_\_\_\_\_\_\_\_ **KCl + Ba(OH)2 🡪 KOH + BaCl2**
	2. \_\_\_\_\_\_\_\_\_\_\_ **Li + Fe(NO3)3 🡪LiNO3 + Fe**
	3. \_\_\_\_\_\_\_\_\_\_\_ 2**MgO 🡪 2 Mg + O2**

***For the following three descriptions write an UNBALANCED reaction that shows phases (s, L, g, aq).***

1. When dissolved silver nitrate (look up in your periodic table back) reacts with dissolved potassium chloride in water, silver chloride precipitate and aqueous potassium nitrate are made.
2. When aluminum chloride and potassium carbonate are dissolved in water they react to form aqueous potassium chloride and aluminum caronate powder.
3. The combustion reaction of the sweet-smelling substance in gasoline called benzene (C6H6).
4. Classify the following as exothermic or endothermic:
5. A reaction with ∆H= -550 kJ
6. A reaction where energy level of the products is higher than that of the reactants.
7. A plant can turn low energy CO2 into energy-rich C6H12O6.
8. Make TWO check marks for each:
9. Gas burning in a Bunsen burner: CH4 + 2O2 → CO2 + 2H2O + 890 kJ

**□exothermic □endothermic □∆H = + 890kJ □∆H = -890kJ**

1. Dehydrating limestone: Ca(OH)2 + 65.3 kJ → CaO + H2O

**□exothermic □endothermic □∆H = + 65.3kJ □∆H = -65.3kJ**

1. Define each:
	1. Empirical:

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* 1. Theoretical:
1. Imagine you are trying to choose from two reactions happening in a lab. One reaction is correct, one is wrong.

***first possibility:*** PbCl2 + 2Li 1 Pb + 2LiCl

***second possibility:*** PbCl3 + 3Li 1 Pb + 3LiCl

Your friend wants to just look up the answer. But you want to do an experiment.

1. Your friend seems to be a fan of (empirical / theoretical ) chemistry.
2. You, meanwhile, go to the lab, do the experiment, and find it takes 0.411 moles LITHIUM reacted with 0.137 moles of LEAD.
* This ratio of $\frac{Li moles}{Pb moles}$ is \_\_\_\_\_\_\_
* So the correct equation above is the (first/second) equation.