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| *What did the Nail Lab Tell Us?*CλeMis+ry: http://genest.weebly.com  |  | Name\_\_\_\_\_\_\_\_\_\_Period\_\_\_\_\_\_\_\_\_\_ |

1. Osmium is toxic, so only try the following reactions on paper! ☺

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

***first possibility:*** OsCl2 + 2Li 1 Os + 2LiCl

***second possibility:*** OsCl3 + 3Li 1 Os + 3LiCl

After the lab, your assistant calculates that 0.411 moles LITHIUM reacted with 0.137 moles of OSMIUM.

1. This ratio of $\frac{Li moles}{Os moles}$ is \_\_\_\_\_\_\_
2. So the correct equation above is the (first/second) equation.

***Balance each reaction by writing the smallest integer for each coefficient.***

1. \_\_\_\_ K + \_\_\_\_ MgBr 🡪 \_\_\_\_ KBr + \_\_\_\_ Mg
2. \_\_\_\_ C3H8(g) + \_\_\_\_ O2(g) → \_\_\_\_ CO2(g) + \_\_\_\_ H2O(g)
3. \_\_\_\_KOH(aq) + \_\_\_\_H3PO4(aq) → \_\_\_\_K3PO4(aq) + \_\_\_\_H2O(l)
4. \_\_\_\_ C6H14(g) + \_\_\_\_ O2(g) → \_\_\_\_ CO2(g) + \_\_\_\_ H2O(g)
5. \_\_\_\_KNO3(s) \_\_\_\_KNO2(s) + \_\_\_\_O2(g)
6. \_\_\_\_ AlBr3 + \_\_\_\_ K2SO4  🡪 \_\_\_\_ KBr + \_\_\_\_ Al2(SO4)3
7. \_\_\_\_ C12H26(g) + \_\_\_\_ O2(g) → \_\_\_\_ CO2(g) + \_\_\_\_ H2O(g)
8. Imagine you are trying to choose from two reactions happening in a lab. One reaction is correct, one is wrong.

PbCl3 + 3Li 1Pb + 3LiCl

PbCl4 + 4Li 1Pb + 4LiCl

In the lab you find that 7 moles LEAD reacts with 21 moles of LITHIUM.

1. This ratio of $\frac{Li moles}{Pb moles}$ is \_\_\_\_\_\_\_
2. So the correct equation above is the (first/second) equation.
3. \_\_\_ KClO3 🡪 \_\_\_\_ KCl + \_\_\_\_ O2
4. \_\_\_\_ NaCl + \_\_\_\_ F2 🡪 \_\_\_\_ NaF + \_\_\_\_ Cl2
5. \_\_\_\_ C4H10(g) + \_\_\_\_ O2(g) → \_\_\_\_ CO2(g) + \_\_\_\_ H2O(g)
6. \_\_\_\_ KClO3 🡪 \_\_\_\_ KCl + \_\_\_\_ O2
7. \_\_\_\_ Pb(OH)2 + \_\_\_\_ HCl 🡪 \_\_\_\_ H2O + \_\_\_\_ PbCl2