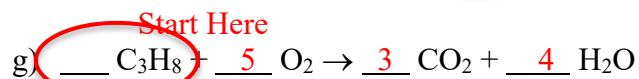
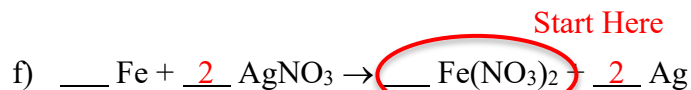
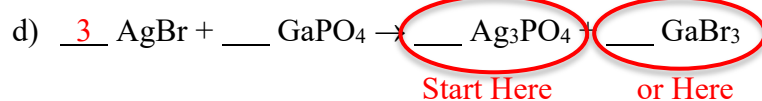
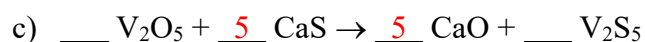
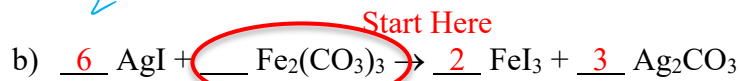
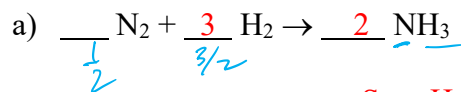


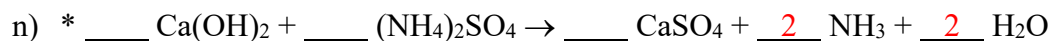
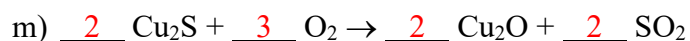
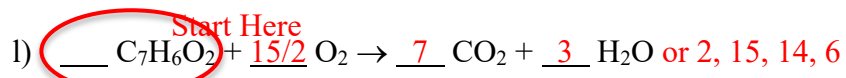
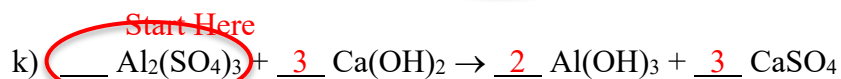
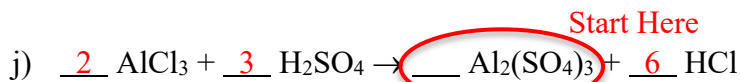
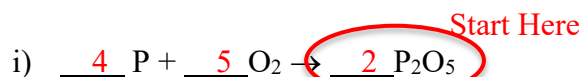
WKS 3-6 – Chem Honors
Balancing Equations

NAME Answer Key
Period _____ Date _____

- 1) Why is it important that a chemical equation be balanced?
Because mass must be conserved, so the numbers of atoms of all elements must be equal on both sides of the equation.
- 2) What is being *balanced* when one balances an equation?
The number of atoms of each element on both sides of the reaction are being balanced.
- 3) When balancing an equation, why is it acceptable to change the coefficients, but not permissible to change the subscripts within the formulas? *To answer this question, complete these sentences:*
- a) When one changes the coefficients, one is changing.....
Changing the coefficients changes the *number of particles* of each reactant or product.
- b) When one changes the subscripts, one is changing.....
Changing the subscripts, on changes the *identity of the particles*, hence their chemical identity and properties.

4) Balance the following equations:





- Start with realizing that you need an even number of N atoms, so start with 2 NH₃
- SO₄ is an unchanging polyatomic ion, so the only O to balance is in Ca(OH)₂ and H₂O. Since Ca(OH)₂ has 2 O atoms, need even number of H₂O: start with 2 H₂O.
- Have 2 + 8 = 10 H atoms in reactants, 6 + 4 = 10 H atoms in products—BALANCED!