**Quiz 7A**

# Directions: Answer each of the following questions. Be sure to use complete sentences where appropriate. For full credit be sure to show all of your work. Where appropriate answers should be boxed for clarity, written to the correct number of significant figures, and, include the proper units.

1. Classify each reaction (i.e. combustion, decomposition, single replacement, double replacement, combustion, oxidation-reduction, gas formation, precipitate formation, exothermic, endothermic reaction) in as many ways as possible (4 points).
   1. 2 Al (s) + 3 Cu(NO3)2 (aq) →2 Al(NO3)3 (aq) + 3 Cu (s)

Oxidation-reduction reaction, single replacement reaction

* 1. 2 HI (aq) + Na2S (aq) → H2S (g) + 2 NaI (aq)

Gas evolution reaction, double displacement reaction

1. Balance the following chemical reactions (8 points):
   1. 2 Na (s) + O2 (g) → Na2O2 (s)
   2. 3 H2 (g) + N2 (g) → 2 NH3 (g)
   3. 2 PbS (s) + 3 O2 (g) → 2 PbO (s) + 2 SO2 (g)
2. Consider the following balanced total ionic equation (8 points):

Ba2+ (aq) + 2 I- (aq) + 2 Na+ (aq) + SO42- (aq) → BaSO4 (s) + 2 I- (aq) + 2 Na+ (aq)

* 1. Identify the spectator ion(s). \_\_\_\_\_\_\_\_Na+, I-
  2. Write the balanced conventional equation.

BaI2 (aq) + Na2SO4 (aq) → BaSO4 (s) + 2 NaI (aq)

* 1. Write the net ionic equation.

Ba2+ (aq) + SO42- (aq) → BaSO4 (s)