Give the names for the following formulas:

18. HNO_2
19. $Na_3(PO_4)_2$
20. $Cu(C_2H_3O_2)_3$
21. $(NH_4)_2O$

Give the formulas for the following names:

22. nitrogen dioxide
23. sulfuric acid
24. potassium chlorite
25. Lithium hydroxide
26. ammonium sulfate
27. Tungsten II nitride

28) Solutions of sodium hydroxide and copper II nitrate react to form solid copper II hydroxide and a solution of sodium nitrate. A solution containing 6.25 grams of sodium hydroxide is mixed with one containing 3.00 grams of copper II nitrate. How many grams of each remain at the end of the reaction?

I. Balanced chemical reaction

II. Molar mass of each component

III. Identify the limiting reactant (show work for full credit)

IV. How many grams of each component are left at the end of the reaction? (show work for full credit)

Masses at end of reaction-

_____g Sodium Hydroxide
_____g Copper II Nitrate
_____g Copper II Hydroxide
_____g Sodium Nitrate

29) Caffeine, a stimulant found in coffee, tea, and certain soft drinks, contains C, H, O, and N. Combustion of 1.000 mg of caffeine produces 1.813 mg CO_2, 0.4639 mg H_2O, and 0.2885 mg N_2.

I. How many grams of C, H, N, and O are present in the sample?

II. What is the simplest formula for the compound?

III. If the molar mass is between 300g and 400g, what is the molecular formula?

Extra credit- Write a balanced reaction for the combustion of the compound.