Vasquez High School -- Chemistry -- Exam #3 -- Chapter 4 -- 60 points

Write TRUE if the statement is true OR write the word(s) that substitutes for the underlined word(s) that would make it true. Writing false earns only partial credit. Three points each.

_____ 1) The gas evolved from the reaction between sodium and water was <u>carbon dioxide</u>.

_____ 2) Consider the sulfur atom in H_2SO_4. The charge on it must be <u>+6</u>. (careful here!)

_____ 3) We use the Latin prefixes whenever we have <u>transition metals</u> involved in a compound.

_____ 4) The most common acid you would find in your stomach is <u>hydrofluoric</u> acid.

_____ 5) There are two metals which are not transitional, yet require roman numerals. They are <u>aluminum and mercury</u>.

<u>Match Those Acids!</u> Two points each.

_____ 6) HNO_3

_____ 7) HBr

_____ 8) $HC_2H_3O_2$

_____ 9) H_3PO_3

_____ 10) H_2S

a) sulfuric acid
b) bromic acid
c) nitrous acid
d) hydrochloric acid
e) hydrosulfuric acid
f) acetic acid
g) nitric acid
h) phosphorous acid
i) sulfurous acid

j) phosphoric acid
k) fluoric acid
l) hydrofluoric acid
m) perchloric acid
n) lysergic acid
o) hydrobromic acid
p) not this acid
q) not this one either
r) why are you reading these?

11) Imagine an element called vasquezium (Vz). It forms four oxygen-containing acids with the number of oxygens ranging from four to one. Each of the anions has a charge of -1. For five points, write the four acid formulas and their respective names according to what you have learned about naming acids.

For two points each, give the <u>exact</u> chemical formula for each of the following:

12) vanadium (III) sulfate   13) aluminum carbonate   14) dinitrogen tetroxide

15) cadmium nitrate   16) chromium (VI) cyanide

17) Three stable isotopes of element X have atomic masses and relative abundances as follows:

Atomic mass = 172.58 amu   Abundance = 54.8 %
Atomic mass = 174.16 amu   Abundance = 12.4 %
Atomic mass = 178.74 amu   Abundance = 32.8 %

For five points, calculate the average atomic mass of element X. You must show your work for full credit.

18) The average atomic mass for element Q is 114.905 amu. The two known stable isotopes of element Q are Q-113 having a mass of 112.962 amu and Q-118 having a mass of 118.186 amu. What is the percentage abundnce of Q-113. You must show your work for full credit. (Neatly would be nice too.)

For two points each, given the exact name for each of the following formulas:

19) OCl_6 20) Mn_3N_7 21) Ag_2SO_3

22) $PbTe_2$ 23) $Fe(OCl)_2$