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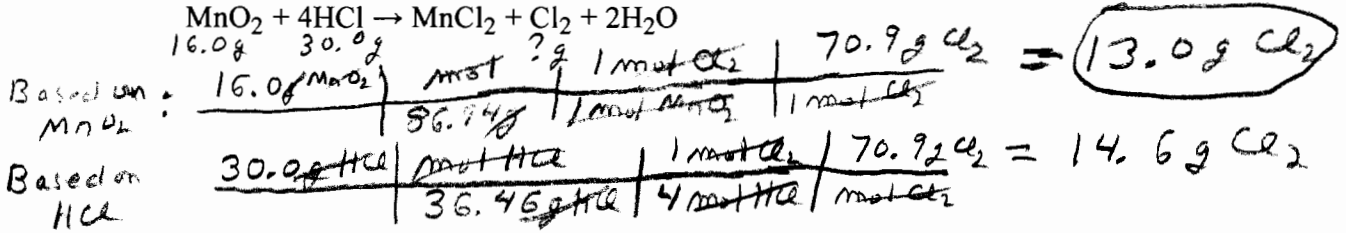
1) (4 Pts) The mineral hausmannite is a compound of ^{55}Mn and ^{16}O . If 72% of the mass of hausmannite is due to manganese, what is the empirical formula of hausmannite?

Mn: $\frac{72\text{g}}{54.94\text{g/mol}} = 1.31 \div 1.31 = 1 \times 3 = 3$
 O: $\frac{28\text{g}}{16.00\text{g/mol}} = 1.75 \div 1.31 = 1.33 \times 3 = 4$ **Mn_3O_4**

2) (3 pts) How many moles of CF_4 are there in 171 g of CF_4 ?

$\frac{171\text{g}}{88\text{g/mol}} = 1.94\text{ mol}$

3) (4 Pts) How many grams of Cl_2 can be prepared from the reaction of 16.0 g of MnO_2 and 30.0 g of HCl according to the following chemical equation?



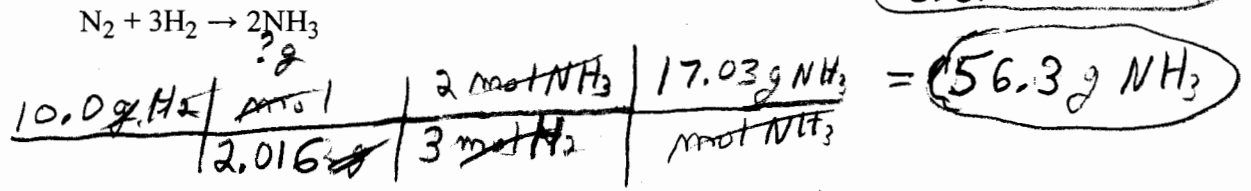
4) (3 Pts) Which one of the following elements is most likely to form a $2+$ ion?

- A) calcium B) carbon C) sodium D) fluorine E) oxygen

5) (4 Pts) What is the empirical formula for $\text{C}_{10}\text{H}_{22}\text{O}_2$?

$\div 2$ (all were even #'s)
 $\text{C}_5\text{H}_{11}\text{O}$

6) (4 Pts) What is the theoretical yield of ammonia that can be obtained from the reaction of 10.0 g of H_2 and excess N_2 ?



7) (3 Pts) Complete the following chart, in order from left to right

Isotope	Mass Number	Protons	Neutrons	Electrons
^{14}N	14	7	7	7