

## Stoichiometry

Name - \_\_\_\_\_

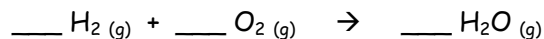
1.) In the reaction  $\text{___ C}_2\text{H}_6 + \text{___ O}_2 \rightarrow \text{___ CO}_2 + \text{___ H}_2\text{O}$

- a.) How many oxygen molecules react with 6 *molecules* of  $\text{C}_2\text{H}_6$ ?
- b.) How many  $\text{H}_2\text{O}$  molecules are produced when 12 *molecules* of  $\text{C}_2\text{H}_6$  react?
- c.) How many moles of oxygen molecules are needed to produce 18 *moles* of  $\text{CO}_2$ ?
- d.) How many moles of  $\text{CO}_2$  are produced when 13 *moles* of  $\text{C}_2\text{H}_6$  are used up?

2.) In the reaction  $\text{___ Fe} + \text{___ H}_2\text{O} \rightarrow \text{___ Fe}_3\text{O}_4 + \text{___ H}_2$

- a.) How many molecules of  $\text{Fe}_3\text{O}_4$  are produced when 12 *atoms* of Fe react?
- b.) How many moles of Fe are required to produce 16 *moles* of  $\text{H}_2$ ?
- c.) How many  $\text{H}_2$  molecules are made when 40 *molecules* of  $\text{Fe}_3\text{O}_4$  are produced?
- d.) How many moles of  $\text{H}_2\text{O}$  are required to react with 14.5 *moles* of Fe?

3.) How many moles of  $\text{H}_2\text{O}$  are produced when 9.6 moles of  $\text{O}_2$  (g) react according to the equation



4.) Consider the equation  $\text{___ I}_2 \text{ (g)} + \text{___ F}_2 \text{ (g)} \rightarrow \text{___ IF}_5 \text{ (g)} + \text{___ I}_4\text{F}_2 \text{ (g)}$

a.) How many moles of  $\text{I}_4\text{F}_2$  (g) are produced by 5.40 moles of  $\text{F}_2$  (g)?

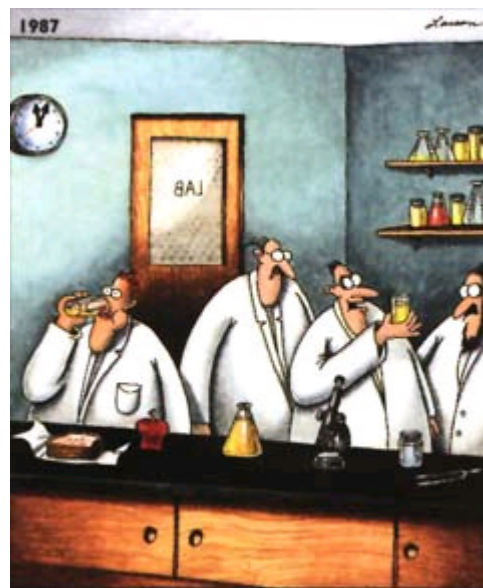
b.) How many moles of  $\text{F}_2$  (g) are required to produce 4.50 moles of  $\text{IF}_5$  (g)?

c.) How many moles of  $\text{I}_2$  (g) are required to react with 7.60 moles of  $\text{F}_2$  (g)?

5.) A student decomposes some hydrogen peroxide,  $\text{H}_2\text{O}_2$ , according to the following reaction



If a total of 0.125 moles of reactants and products are involved in the reaction, how many moles of  $\text{O}_2$  are produced?



"What the? ... This is lemonade! Where's my culture of amoebic dysentery?"