Answer the following questions about the chemical equation shown below:

$$2 \text{ CO} + \text{O}_2 \rightarrow 2 \text{ CO}_2$$

a) What are the reactants?

- b) What is the product?
- c) What do we call the number "2" in front of the CO and  $CO_2$ ?
- d) Why is there no coefficient for  $O_2$ ?

e) How many carbon atoms are needed to produce two CO<sub>2</sub> molecules?

f) How many oxygen molecules are needed to produce two CO<sub>2</sub> molecules?

g) How many oxygen atoms are needed to produce two CO<sub>2</sub> molecules?

h) Write the word equation that you would use to describe this reaction.

i) Use words in a sentence, not formulas or an arrow, to describe the reaction.

Balance the following chemical equations:

a) 
$$C_2H_6 + O_2 \rightarrow CO_2 + H_2O$$

- b)  $NH_3 + O_2 \rightarrow NO + H_2O$
- c)  $CH_4 + CI_2 \rightarrow CH_3CI + HCI$
- d)  $P_4 + Cl_2 \rightarrow PCl_3$ 
  - a)
  - b)
  - c)
  - d)