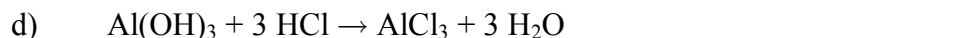
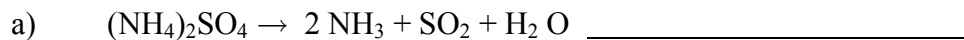


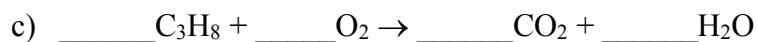
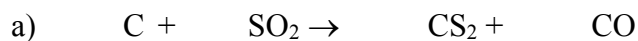
REVIEW QUESTIONS

Chapter 6

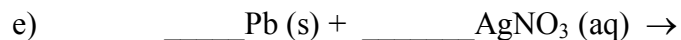
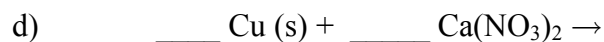
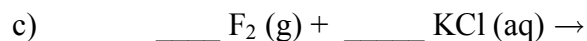
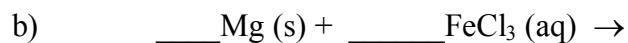
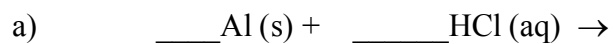
1. Classify the type of each of the following reactions:



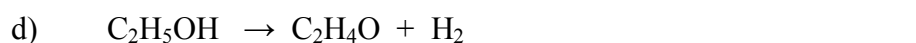
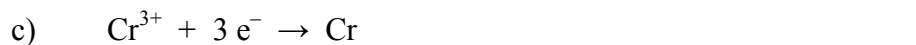
2. Balance each of the equations shown below:



3. Predict the products for each reaction and balance the equation. If no reaction occurs, write "No Reaction" after the arrow:



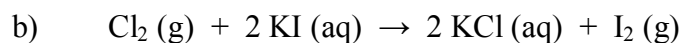
4. Identify each reaction below as oxidation or reduction:



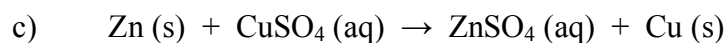
5. In the following reactions, identify which reactant is oxidized and which is reduced:



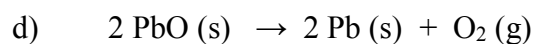
oxidized: _____ reduced: _____



oxidized: _____ reduced: _____



oxidized: _____ reduced: _____



oxidized: _____ reduced: _____

6. Calculate each of the following quantities:

a) Number of moles in 112 g of aspirin, $C_9H_8O_4$

Molar mass =

Moles = $\text{g} \times \text{_____} =$

b) Mass of 3.82 moles of silver acetate, $AgC_2H_3O_2$

Molar mass =

Mass = $\text{mol} \times \text{_____} =$

c) Number of molecules in 1.75 moles of CO_2

Molar mass =

of CO_2 molecules = $\text{mol } CO_2 \times \text{_____} =$

d) Number of mole of H atoms in 20.0 g of CH_4

Molar mass =

of mol H atoms = $\text{g } CH_4 \times \text{_____} \times \text{_____} =$

7. Use the equation below to determine the mole ratios below:



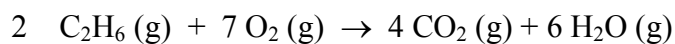
A) $\frac{\text{mol NH}_3}{\text{mol H}_2\text{O}} =$

C) $\frac{\text{mol H}_2\text{O}}{\text{mol CH}_4} =$

B) $\frac{\text{mol HCN}}{\text{mol O}_2} =$

D) $\frac{\text{mol O}_2}{\text{mol H}_2\text{O}} =$

Use the reaction shown below to answer the next 3 questions:

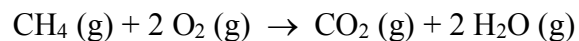


8. How many moles of water can be produced when 1.8 moles of C_2H_6 are used?

9. How many moles of CO_2 are produced when 25.0 g of oxygen are consumed?

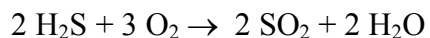
10. How many grams of water is produced when 78.0 g of C_2H_6 are burned?

11. In the reaction shown below, if 10.0 g of CH₄ is combined with 30.0 g of O₂, what is maximum amount of CO₂ that can be produced?

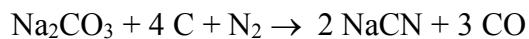


12. In an experiment with Zn and S, it was found that 30.7 g of ZnS was produced. If the percent yield of the reaction was 93.7%, what is the theoretical yield of this reaction?

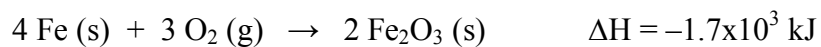
13. How many grams of SO₂ can be produced from reaction of 10.0 g of H₂S and 10.0 g of O₂, as shown below:



14. When 50.0 g of N_2 is reacted with an excess of other reactants as shown below, 20.0 g of NaCN was produced. What is the percent yield of this reaction?



15. The formation of Fe_2O_3 from iron and oxygen gas releases 1.7×10^3 kJ of heat, as shown below:



- a) How many kJ are released when 2.00 g of Fe react?
- b) How many grams of Fe_2O_3 are produced when 475 kJ of heat are released?