

Answers Chp 6 Review

1.a) The Law of Conservation of mass states that the total mass of the products is the same as the total mass of products in a chemical reaction.

b) This law means that atoms are neither created or destroyed only re-arranged. Therefore the number of atoms on each side of the equation must be the same.

2. a) synthesis reaction
c) skeletal equation
d) decomposition reaction
e) co-efficient

3. a) A word equation contains words to represent compounds **and elements**
b) The total mass of products is **ALWAYS** equal to the total mass of reactants.
d) Atoms **ARE NEVER** destroyed in chemical changes
e) compounds are broken down in **DECOMPOSITIONS**
f) Elements and compounds react in **SINGLE DISPLACEMENT REACTIONS**
g) Elements combine in **SYNTHESIS** reactions
h) The products of combustion of a hydrocarbon are carbon dioxide and **WATER**

4. (a) acetylene + oxygen \rightarrow carbon dioxide + water
(Combustion)

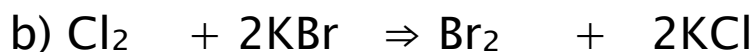
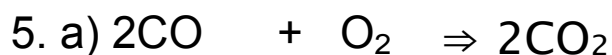
(b) zinc + silver nitrate \rightarrow zinc nitrate + silver
(Single Displacement)

(c) zinc carbonate \rightarrow zinc oxide + carbon dioxide
(Decomposition)

(d) nitrogen + oxygen \rightarrow nitrogen dioxide
(Synthesis)

(e) potassium hydroxide + phosphoric acid \rightarrow water + potassium phosphate
(Double Displacement)

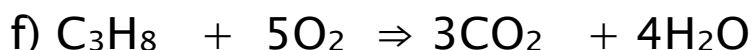
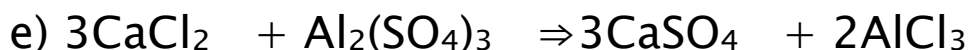
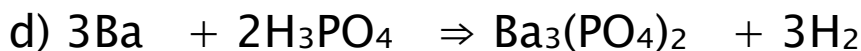
(f) hydrogen + nitrogen \rightarrow ammonia (Synthesis)



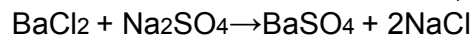
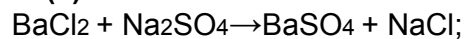
c) balanced



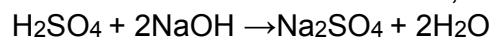
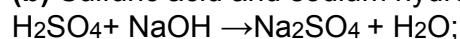
c) balanced



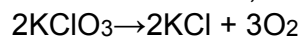
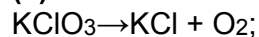
7. (a) Barium chloride and sodium sulfate react to form barium sulfate and sodium chloride



(b) Sulfuric acid and sodium hydroxide react to form sodium sulfate and water



(c) Potassium chlorate decomposes to form potassium chloride and oxygen



12. Mass of reactants = Mass of products

metal + acid solution = product + gas

$$3.4 \text{ g} + 102.5 \text{ g} = 105.6 \text{ g} + x \text{ (gas)}$$

$$105.9 \text{ g} = 105.6 \text{ g} + x \text{ (gas)}$$

$$x \text{ (gas)} = 105.9 \text{ g} - 105.6 \text{ g}$$

$$= 0.3 \text{ g}$$

The mass of gas produced is 0.3 g.

Part B

