Answers Chp 6 Review

5. a) $2CO + O_2 \Rightarrow 2CO_2$

b) $Cl_2 + 2KBr \Rightarrow Br_2 + 2KCl$

c) balanced

6. a) $Ca + 2HBr \Rightarrow CaBr_2 + H_2$

b) $4Al + 3O_2 \Rightarrow 2Al_2O_3$

c) balanced

d) $3Ba + 2H_3PO_4 \Rightarrow Ba_3(PO_4)_2 + 3H_2$

e) $3CaCl_2 + Al_2(SO_4)_3 \Rightarrow 3CaSO_4 + 2AlCl_3$

f) $C_3H_8 + 5O_2 \Rightarrow 3CO_2 + 4H_2O$

12. Mass of reactants = Mass of products
metal + acid solution = product + gas
3.4 g + 102.5 g = 105.6 g + *x (gas)*
105.9 g = 105.6 g + *x (gas)*
x (gas) = 105.9 g – 105.6 g
= 0.3 g
The mass of gas produced is 0.3 g.

Part C

a) $C_5H_{12} + 8\ O_2 \Rightarrow 5\ CO_2 + 6\ H_2O$

complete combustion

b) $C_4H_{10} + 4O_2 \Rightarrow CO_2 + CO + 2C + 5H_2O$

incomplete combustion

c) $2C_6H_{14} + 19\ O_2 \Rightarrow 12\ CO_2 + 14\ H_2O$

complete combustion

Part D

calcium + acid $\Rightarrow$ product + gas

4.5 g + 103.8 g $\Rightarrow$ 109.4 g + ?

108.3g $\Rightarrow$ 108 g + ?

108.3 g – 108g = 0.3 g

The law of conservation of mass states that the mass of the reactants must equal the mass of the products in a reaction. The mass that is missing is the mass of the gas because it has evaporated into th air and cannot be measured in the beaker.