SYNTHESIS AND DECOMPOSITION WORKSHEET

1) Identify each reaction as synthesis or decomposition and 2) write a balanced chemical equation for each reaction.

Phosphorous + oxygen → tetraphosphorous decaoxide

Iron(III) hydroxide → iron(III) oxide + water

Ammonia + sulfuric acid → ammonium sulfate

Carbon monoxide + oxygen → carbon dioxide

Potassium + chlorine → potassium chloride

Manganese (II) sulfate heptahydrate → manganese (II) sulfate + water

Sodium nitrate → sodium nitrite + oxygen

Potassium chlorate → potassium chloride + oxygen

2)

a- What is the difference between synthesis and decomposition?

b- How can an exothermic synthesis reaction become a decomposition reaction?

c- What traits do synthesis and decomposition share?