

Chemical Reactions: Practice Test

Suggested Time: 30 minutes

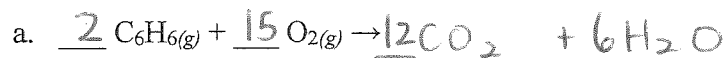
INSTRUCTIONS: You will be expected to communicate your knowledge and understanding of chemical principals in a clear and logical manner.

Your steps and assumptions leading to a solution must be written in the spaces below the questions.

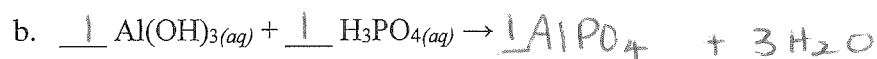
Answers must include units where appropriate and be given the correct number of significant figures.

For questions involving calculations, full marks will NOT be given for providing only an answer.

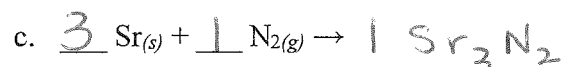
1. Complete, balance, and state the type of reaction for each equation.



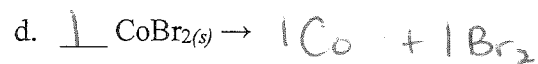
Type: Combustion



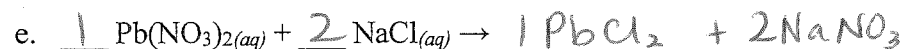
Type: Neutralization



Type: Synthesis



Type: Decomposition



Type: Double Replacement

2. Translate the following into chemical formulae, balance the equations, and state the phases of the species involved. Include the type of reaction in the space provided.

a. Phosphoric acid reacts with sodium hydroxide to give aqueous sodium phosphate and water.



Type: Neutralization

b. Solid calcium hydride and water form hydrogen and solid calcium hydroxide.



Type: _____

c. Heptane ($\text{C}_7\text{H}_{16}(\text{g})$) burns in an atmosphere of oxygen gas.



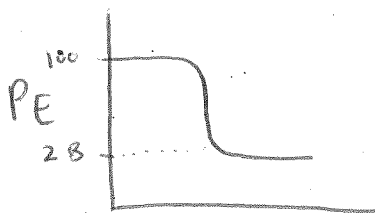
Type: Combustion

d. Solid barium chlorate, when heated, produces solid barium chloride and oxygen gas.



Type: Decomposition

3. Draw an energy diagram having $\Delta H = -72 \text{ kJ}$.



4. If $\text{A} + 39 \text{ kJ} \rightarrow \text{B}$, what is ΔH for the reaction? Is this reaction endothermic or exothermic?

$\Delta H = +39 \text{ kJ}$ ENDOTHERMIC

END OF TEST