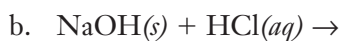
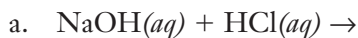


HESS'S LAW

NAME _____

SECTION _____

1. Predict the product for the following reactions:

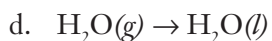
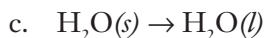
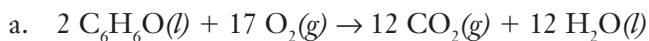


2. Write the net ionic equation for both reactions in Question 1.

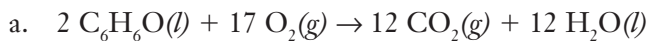
a.

b.

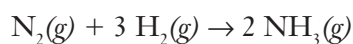
3. For each of the following chemical equations predict whether the reaction is exothermic or endothermic.



4. Calculate Δn (the change in the moles of gaseous substances) for each of the following balanced chemical equations.



5. When 8.50 g of NH_3 are formed, according to the following balanced chemical equation:

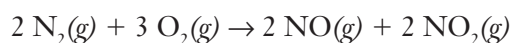


23.1 kJ of heat are released.

- How many kJ of heat are released when 1 mol of N_2 reacts with excess H_2 ?
 - How many kJ of heat are released when 2 mol of NH_3 are formed?
 - How many kJ of heat are released when 4 mol of N_2 reacts with 4 mol H_2 ?
6. Use Hess's Law and the following chemical equations:

Chemical Equation	ΔH° (kJ mol ⁻¹)
$\frac{1}{2} \text{N}_2(g) + \frac{1}{2} \text{O}_2(g) \rightarrow \text{NO}(g)$	30.0
$\frac{1}{2} \text{N}_2(g) + \text{O}_2(g) \rightarrow \text{NO}_2(g)$	46.0

Calculate the $\Delta H^\circ_{\text{rxn}}$ for the equation



7. Calculate $\Delta H^\circ_{\text{rxn}}$ for the following reactions:

