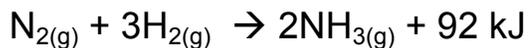


Heat Review Groupwork!

Name: _____

1) Sketch an **energy diagram** for the following reaction. Label the ΔH in the diagram and assign it a positive or negative sign:



2) If you reacted 1.00 grams of H_2 gas in the above reaction, how many kJ of energy could you theoretically produce?

1.00 g H_2 _____ kJ

3) Imagine you performed the reaction described in (2) above and only produced 12.2 kJ of energy in the lab, calculate your percent yield and percent error.

% Yield =

% Error =

4) Sketch an energy diagram for the following reaction. Label the ΔH in the diagram and assign it a positive or negative sign:



5) If you needed to produce exactly 5.00 grams of carbon, how many kJ of energy would you need?

5.00 g C _____ kJ

6) How many grams of CO_2 could you decompose if you only had 100. kJ of energy available?

100. kJ _____ g CO_2

Over>>>

7) Write an equation to show the **formation** of one mole of $\text{NH}_4\text{NO}_3(\text{s})$. Be sure to include the enthalpy (kJ) in the reaction.

_____ → _____

7b) If you were to form 1.00 gram of NH_4NO_3 , how many kJ of energy would be released?

_____ kJ

8) Write an equation to show the **combustion** of one mole of $\text{C}_8\text{H}_{18}(\text{l})$. Be sure to include the enthalpy (kJ) in the reaction (look it up).

_____ → _____

8b) If you were to combust 2.00 grams of octane ($\text{C}_8\text{H}_{18}(\text{l})$), how many kJ of energy could you theoretically produce?

_____ kJ

9) Use your **bond enthalpy WS** to answer these questions. Calculate the ΔH of the following. Make sure to draw the correct Lewis structures first.

