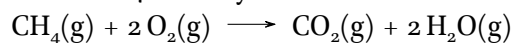Quiz 7.1 – Enthalpy, Entropy, and Gibbs Energy

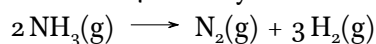Name: _____

## Question 1

Use Table 7.1 from your textbook to find the enthalpy for the combustion of methane gas:
$CH_4(g) + 2 O_2(g) \longrightarrow CO_2(g) + 2 H_2O(g)$

## Question 2

Use your answer from question 1 to find how many $J$ of heat are released when $5.0\ g$ of $CH_4$ react with excess $O_2$

## Question 3

Use Table 7.1 from your textbook to find the enthalpy for the following reaction:
$2 NH_3(g) \longrightarrow N_2(g) + 3 H_2(g)$

## Question 4

Use your answer from question 3 to find the enthalpy change when $2.0\ g$ of $NH_3$ decompose into $H_2$ and $N_2$

## Question 5

AgCl is usually considered an *insoluble* salt, but we can discuss its solvation in theoretical terms

The reaction is: $AgCl(s) \longrightarrow Ag^+aq + Cl^-(aq)$   $\Delta H_{rxn} = +65.49\ \dfrac{kJ}{mol}$
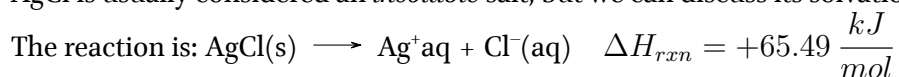
Is there any temperature condition where AgCl might actually become soluble?

*Pioneers*

**By Carol Lynn Pearson**

My people were Mormon pioneers.
Is the blood still good?
They stood in awe as truth
Flew by like a dove
And dropped a feather in the West.
Where truth flies you follow
If you are a pioneer.
I have searched the skies
And now and then
Another feather has fallen.
I have packed the handcart again
Packed it with the precious things
And thrown away the rest.
I will sing by the fires at night
Out there on uncharted ground
Where I am my own captain of tens
Where I blow the bugle
Bring myself to morning prayer
Map out the miles
And never know when or where
Or if at all I will finally say,
"This is the place,"
I face the plains
On a good day for walking.
The sun rises
And the mist clears.
I will be all right:
My people were Mormon Pioneers.