Warm-Up #49 Name:_____Date:_____

1. A reaction vessel contains a mixture of NH_3 gas, H_2 gas and N_2 gas. The partial pressure of NH_3 is 843 mm Hg, the partial pressure of H_2 is 2.33 atm and the partial pressure of N_2 is 0.48 atm.

    a. Calculate the total pressure of the gas mixture.

    b. Assume all three gases are at the same temperature. Which gas would move at the fastest speed?

2. A sample of helium gas is contained in a closed rigid container in which volume remains constant. The sample of helium gas exerts a pressure of 141 kPa at a temperature of 22.2 °C. The temperature of the gas is increased to 64.5°C. What would be the pressure, in kPa, at the higher temperature?

Warm-Up #49 Name:_____Date:_____

1. A reaction vessel contains a mixture of NH_3 gas, H_2 gas and N_2 gas. The partial pressure of NH_3 is 843 mm Hg, the partial pressure of H_2 is 2.33 atm and the partial pressure of N_2 is 0.48 atm.

    a. Calculate the total pressure of the gas mixture.

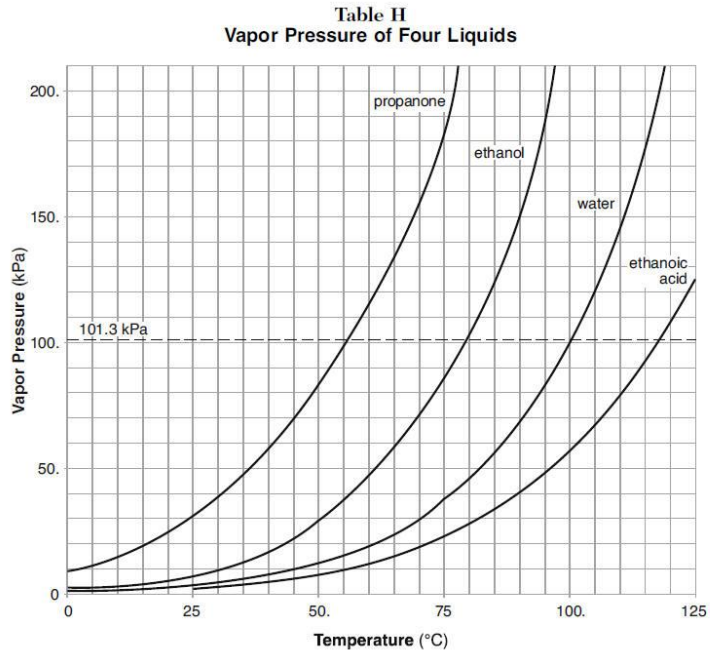
    b. Assume all three gases are at the same temperature. Which gas would move at the fastest speed?

2. A sample of helium gas is contained in a closed rigid container in which volume remains constant. The sample of helium gas exerts a pressure of 141 kPa at a temperature of 22.2 °C. The temperature of the gas is increased to 64.5°C. What would be the pressure, in kPa, at the higher temperature?

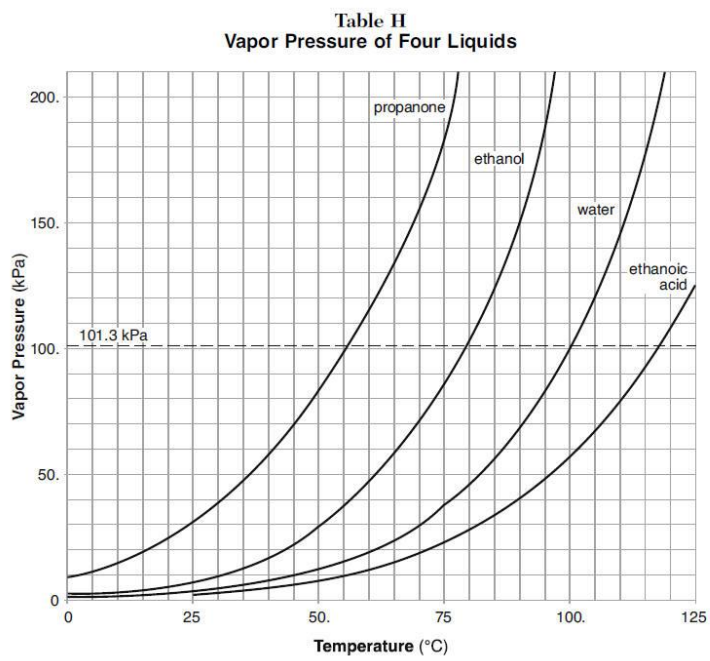
3. How many kilojoules of energy would be released when 50.3 grams of water are frozen? The heat of fusion for water is 333 kJ/kg and the heat of vaporization for water is 2260 kJ/kg.

4. What is the normal boiling point (i.e. at a pressure of 101.3 kPa) of propanone?

5. According to the vapor pressure curves, which liquid would have the strongest intermolecular forces?



3. How many kilojoules of energy would be released when 50.3 grams of water are frozen? The heat of fusion for water is 333 kJ/kg and the heat of vaporization for water is 2260 kJ/kg.

4. What is the normal boiling point (i.e. at a pressure of 101.3 kPa) of propanone?

5. According to the vapor pressure curves, which liquid would have the strongest intermolecular forces?