* VII-3 _____C _____NC
** VI-1 _____C _____NC

Chemistry 151
Worksheet 11

Name: _____

A. (7.0 pts.) From the phase diagram provided, give the best answer to each of the following:

*1. At 20°C and 2.00atm pressure, this substance is a _____.

2. As the temperature is increased from 180°C to 220°C at a constant pressure of 1.75atm, this substance changes from a _____ to a _____. This process is called _____.

3. At a constant pressure of 0.75atm, the temperature is decreased from 80°C to 40°C. This substance changes from a _____ to a _____. This process is called _____.

4. What minimum pressure is required to liquify this substance at a temperature of 220°C? _____atm

5. At a constant pressure of 2.00atm, this substance will melt at _____°C and boil at _____°C.

6. The critical pressure of this substance is _____atm.

7. At a constant temperature of 150°C, the pressure is increased from 1.25atm to 1.75atm. This substance changes from a _____ to a _____.

8. The normal boiling point of this substance is _____°C.

B. Use the given information to solve the following problems.

Specific heat of ice = 2.09J/g°C
Specific heat of water = 4.18J/g°C
Specific heat of steam = 2.03J/g°C
Heat of fusion of water = 334J/g
Hear of vaporization of water = 2260J/g

**1. (1.0 pts.) Find the amount of heat in joules required to raise the temperature of 28.0g of water from 30.0°C to 60.0°C.

2. (2.0 pts.) Find the amount of heat in joules released when 55.0g of steam at 108.0°C is cooled to ice at –15.0°C.