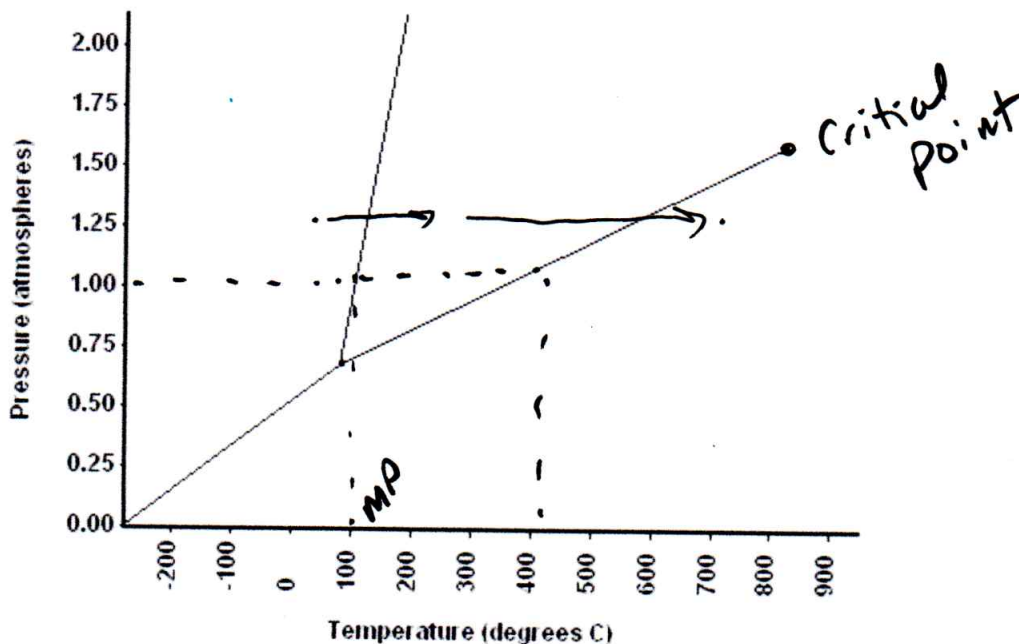


4
(#7-2a)



Phase Diagram Worksheet

Refer to the phase diagram below when answering the questions on this worksheet:



- 1) Label the following on the phase diagram above: Solid phase, liquid phase, gas phase, triple point, critical point.
- 2) What is the normal melting point of this substance? 100
- 3) What is the normal boiling point of this substance? 400
- 4) What is the normal freezing point of this substance? 100
- 5) If I had a quantity of this substance at a pressure of 1.25 atm and a temperature of 0°C and heated it until the temperature was 750°C , what phase transition(s) would occur? At what pressure(s) would they occur?

melt \rightarrow vaporize
Solid \rightarrow gas (sublimation?)
1.25

- 6) At what temperature do the gas and liquid phases become indistinguishable from each other?

1.5 atm / 800°C

- 7) If I had a quantity of this substance at a pressure of 0.25 atm and a temperature of -100°C , what phase change(s) would occur if I increased the pressure to 1.00 atm? At what temperature(s) would they occur?

solid \rightarrow gas Sublimation