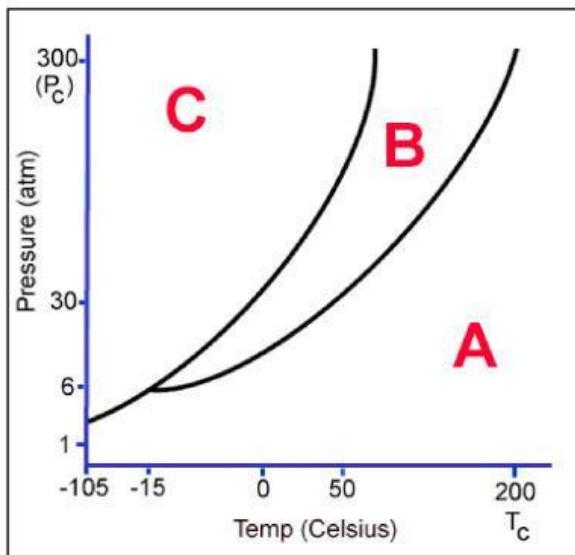


# HONORS

## Assignment 1 : Phase Diagrams

1. Answer the questions regarding the Phase Diagram below by selecting correct options from the drop-down boxes:



The area of the graph that represents the Liquid Phase is :

The area of the graph that represents the Gas Phase is :

The area of the graph that represents the Solid Phase is :

A Phase Change from A to B is known as :

A Phase Change from B to A is known as :

A Phase Change from C to B is known as :

A Phase Change from B to C is known as :

A Phase Change from A to C is known as :

A Phase Change from C to A is known as :

Freezing occurs by :

Melting occurs by :

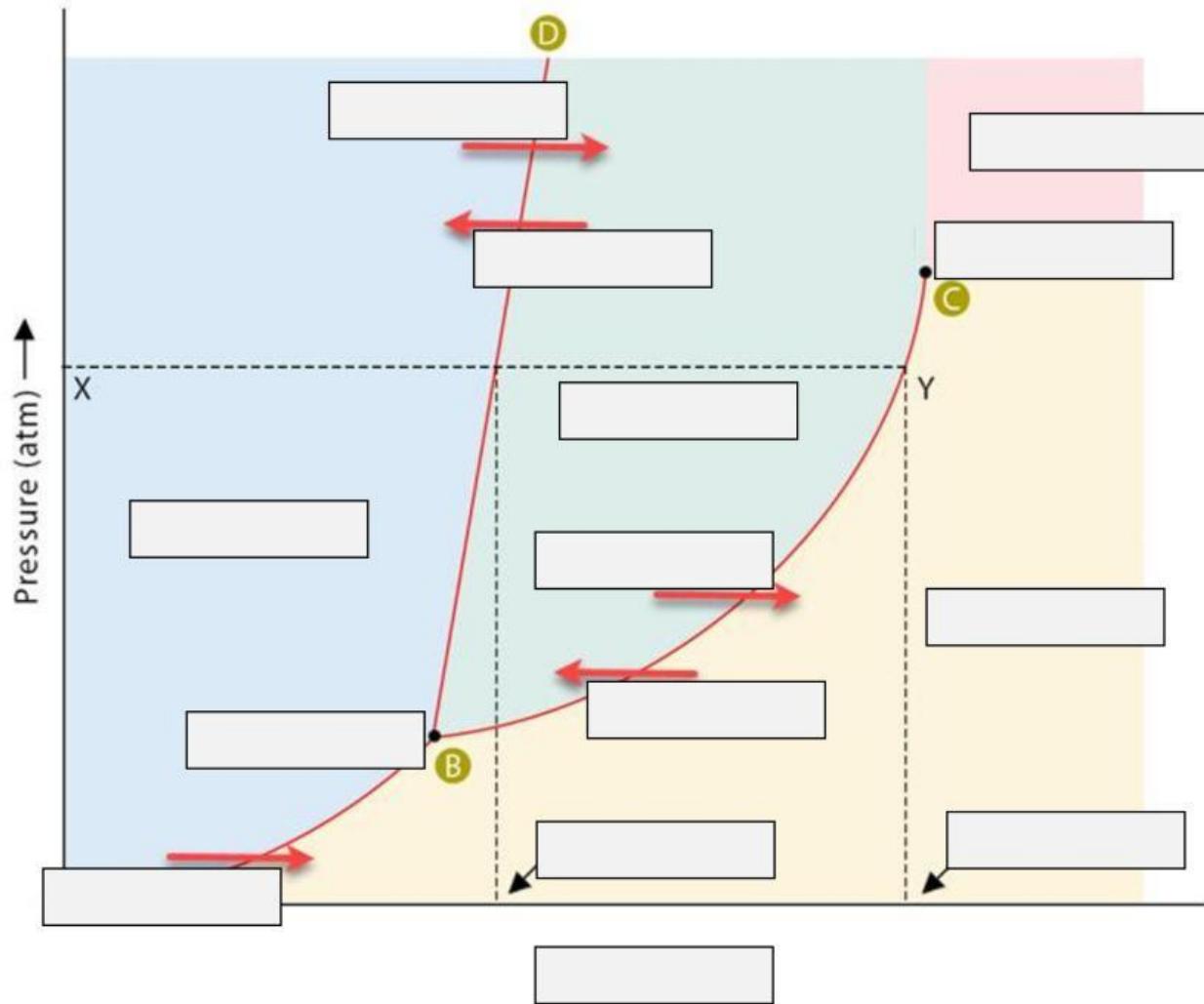
2. Drag & Drop each of the following items onto the Phase Diagram :

Temperature (°C)  
Critical Point  
Vaporization

Solid  
Boiling Point  
Melting

Triple Point  
Melting Point  
Freezing  
Condensation

Supercritical Fluid  
Sublimation  
Liquid  
Gas



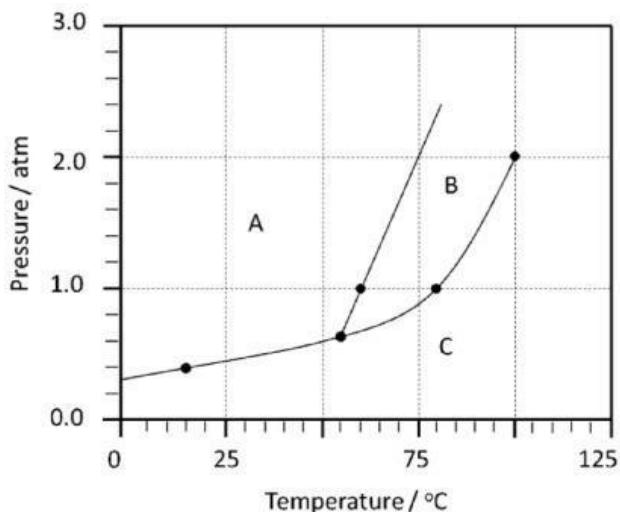
**3. Interpret the Phase Diagram to the right and answer the following questions:**

Above 100°C and below 2 atm this substance can ONLY exist as a ...

- a) supercritical fluid
- b) liquid
- c) solid
- d) gas

Above 2 atm and below 75°C this substance can ONLY exist as a ...

- a) supercritical fluid
- b) liquid
- c) solid
- d) gas

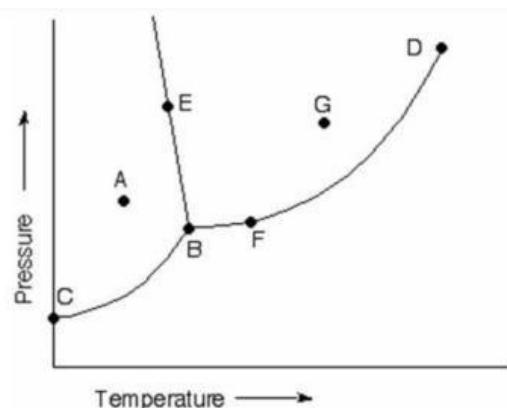


**4. Interpret the Phase Diagram to the right and answer the following questions:**

Which line represents the Sublimation Curve :

Which line represents the Vaporization Curve :

Which line represents the Fusion Curve (interface between the Liquid and Solid Phases) :



Which point represents the Triple Point :

Which point represents the Critical Point :

5. Identify the following lines or points on the Phase Diagram below :

fa :

bf :

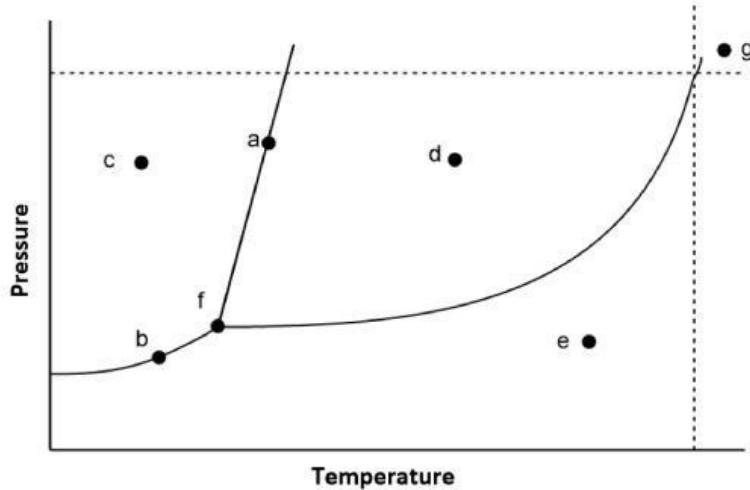
f :

c :

d :

g :

e :



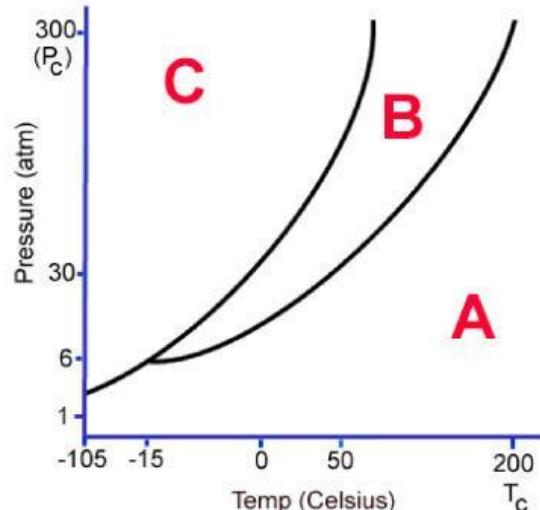
6. Interpret the Phase Diagram to the right and answer the following questions:

The Triple Point of this substance occurs at :

- a) -15°C and 6atm
- b) 200°C and 300atm
- c) 0°C and 6 atm
- d) -15°C and 1 atm

At 30 atm, the melting Point of this Substance is :

- a) -105°C
- b) 50°C
- c) 0°C
- d) -15°C



At 30 atm, the Boiling Point of this Substance is :

- a) 200°C
- b) -15°C
- c) 50°C
- d) 0°C
- e) -105°C

At 1 atm and 0°C, this substance can exist as :

- a) a Gas only
- b) a Liquid Only
- c) a Solid Only
- d) a Solid and a Gas
- e) a Liquid and a Gas

If the temperature of the substance is held constant at -15 °C, the phase change that would occur with a pressure increase from 1 atmosphere to 30 atmospheres is:

- a) Sublimation
- b) Freezing
- c) Vaporization
- d) Condensation
- e) Melting
- f) Deposition

Above 200 °C, this substance can **only** exist as:

- a) Solid
- b) Liquid
- c) Gas