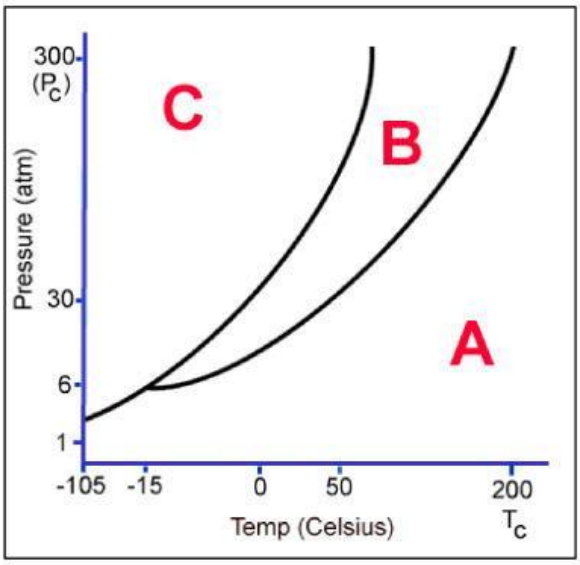
HONORS

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 :

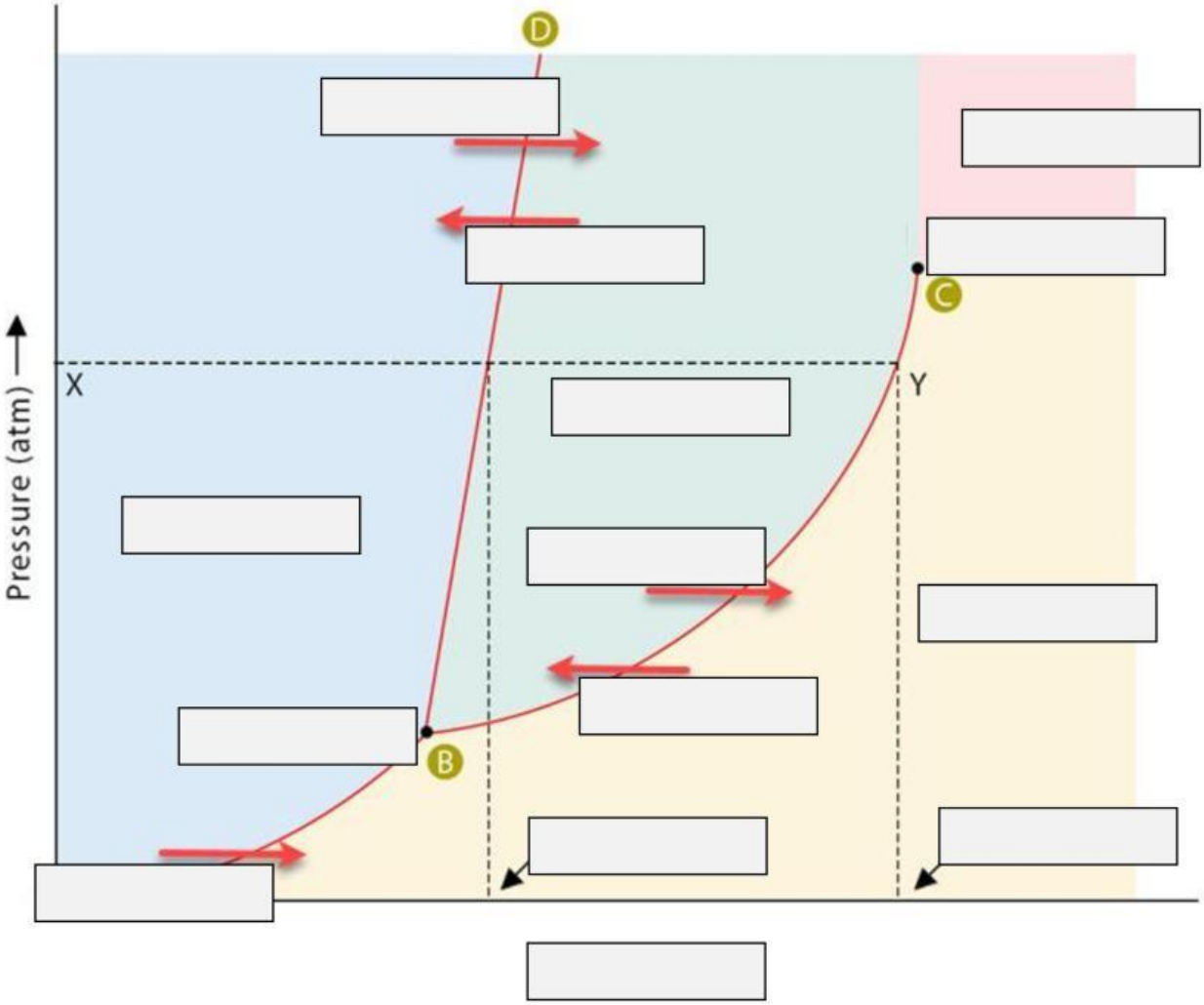
Freezing occurs by :

Melting occurs by :

LIVEWORKSHEETS

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

Temperature (°C)	Solid	Triple Point	Supercritical Fluid
Critical Point	Boiling Point	Melting Point	Sublimation
Vaporization	Melting	Freezing	Liquid
		Condensation	Gas



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

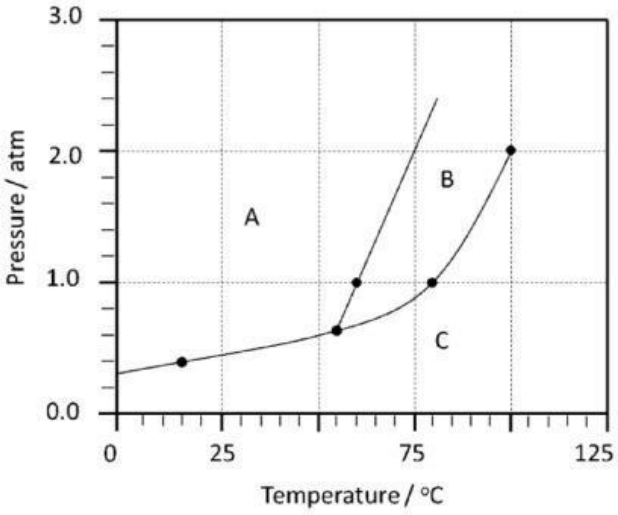
Above 100°C and below 2 atm this substance can ONLY exist as a ...

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

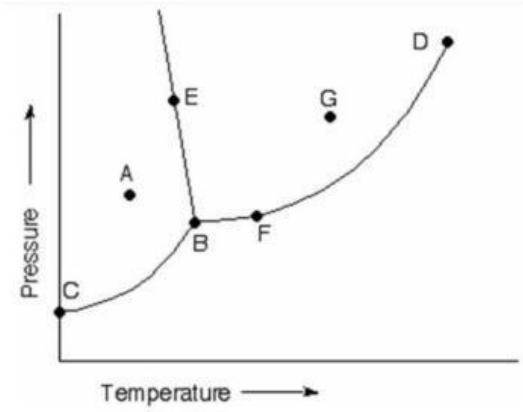
d) gas

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 :

LIVEWORKSHEETS

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

fa :

bf :

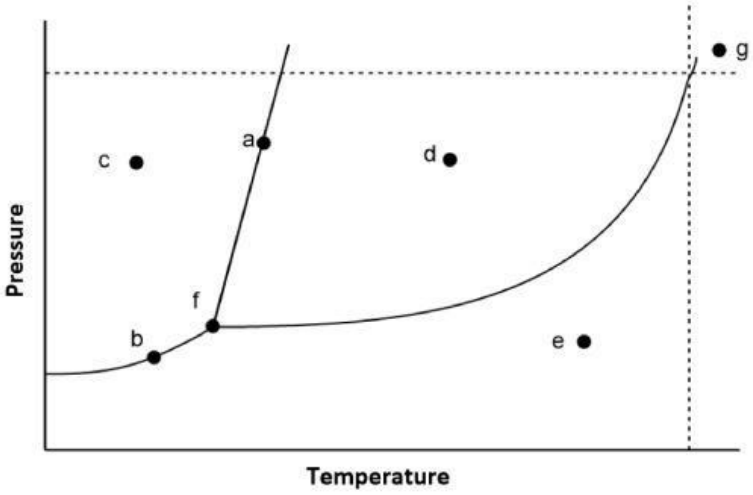
f :

c :

d :

g :

e :



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

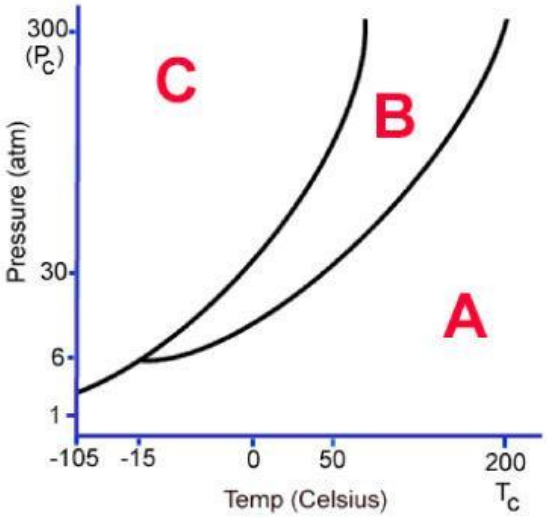
The Triple Point of this substance occurs at :

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

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At 1 atm and 0C, 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

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