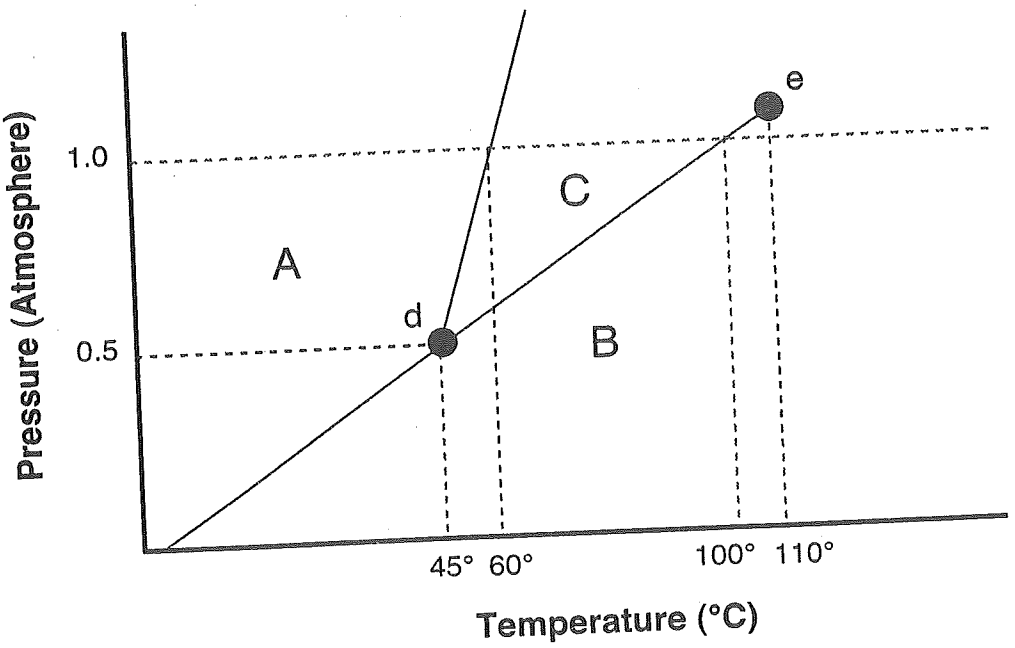
Name _____

PHASE DIAGRAM



Answer the following questions using the chart above.

1. What section represents the solid phase? _____
2. What section represents the liquid phase? _____
3. What section represents the gas phase? _____
4. What letter represents the triple point? _____
5. What letter represents the critical point? _____
6. What is this substance's normal melting point? _____
7. What is this substance's normal boiling point? _____
8. Above what temperature is it impossible to liquify this substance no matter what the pressure? _____
9. At what temperature and pressure do all three phases coexist? _____
10. Is the density of the solid greater than or less than the density of the liquid? _____
11. Would an increase in pressure cause this substance to freeze or melt? _____

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Name _____

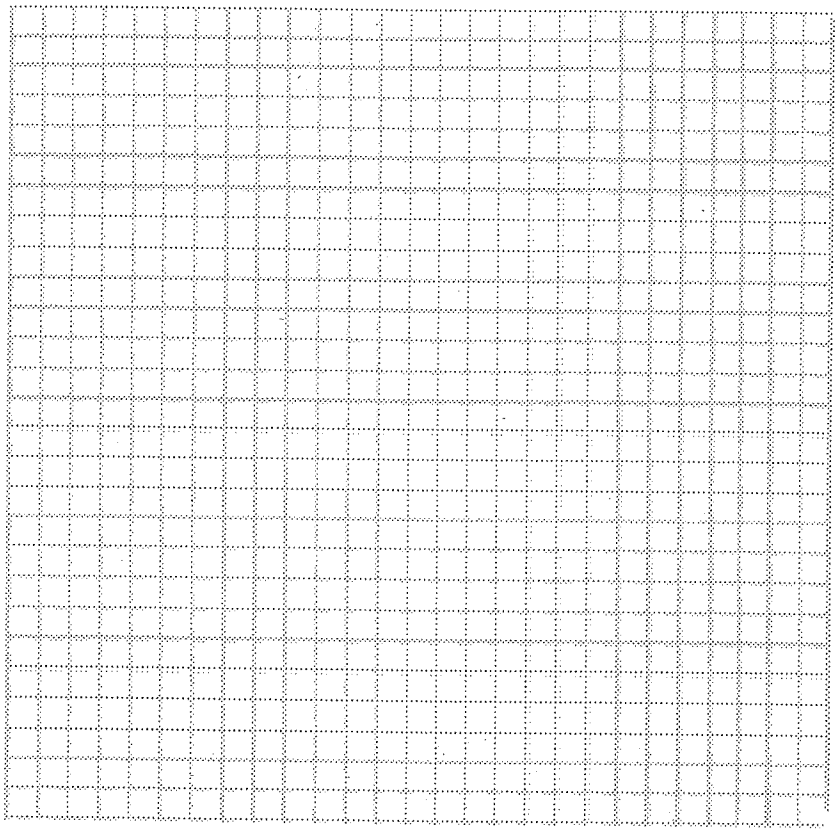
Date _____ Hour ___

Graphing and Analyzing Phase Changes

Listed below are the temperature and times recorded as substance #1 was heated in a test tube.

- Graph the data points on the graph below and connect all points with a smooth line then answer the questions about the graph. *X-axis = Time, Y-axis = Temp*

Time (minutes)	Temp (°C)
0	25
0.25	26
0.50	28
0.75	30
1.0	33
1.25	36
1.50	39
1.75	44
2.0	49
2.25	55
2.50	55
2.75	55
3.0	58
3.25	62
3.50	65
3.75	70
4.0	74



1. What is the initial temperature of the substance above? _____

2. What is the time interval for the data set above? _____

3. At what time period does the heat energy continue to increase, but not the temperature? _____

4. If you were told that the substance above was initially a solid, what state of matter is it at a temperature of 49°C? _____ 58°C? _____

5. Which of the following is observed in the data and graph above (assuming that we are only dealing with heating the original substance)? Circle One

Sublimation Freezing Pt. Melting Pt. Condensation Evaporation