

JAN '06

GRAPHING LAB 1

Base your answers to questions 78 through 80 on the data in Reference Table S.

78 On the data table in your answer booklet, record the boiling points for He, Ne, Ar, Kr, and Xe. [1]

79 On the grid in your answer booklet, plot the boiling point versus the atomic number for He, Ne, Ar, Kr, and Xe. Circle and connect the points. [1]

Example: 

80 Based on your graph, describe the trend in the boiling points of these elements as the atomic number increases. [1]

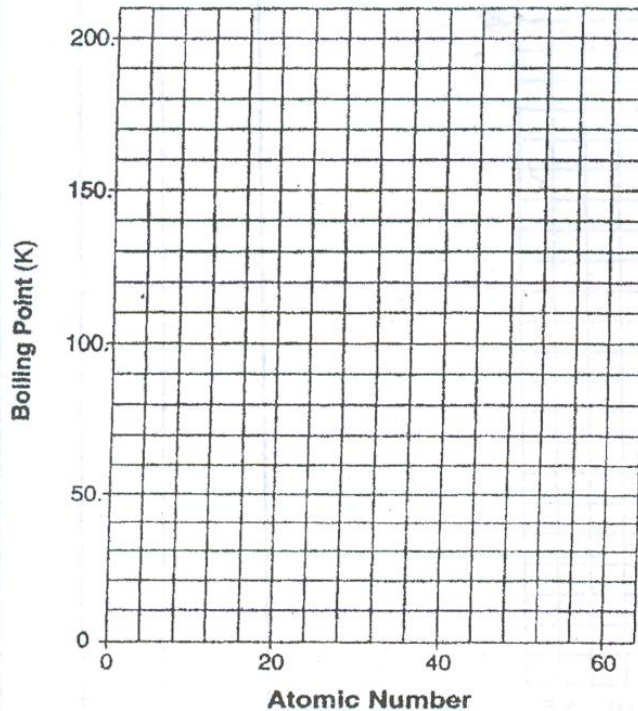
78

Data Table

| Symbol | Atomic Number | Boiling Point (K) |
|--------|---------------|-------------------|
| He | 2 | |
| Ne | 10 | |
| Ar | 18 | |
| Kr | 36 | |
| Xe | 54 | |

79

Boiling Point Versus Atomic Number
 for He, Ne, Ar, Kr, and Xe



80

Base your answers to questions 66 through 70 on the information below.

Jun 05

A substance is a solid at 15°C. A student heated a sample of the solid substance and recorded the temperature at one-minute intervals in the data table below.

| Time (min) | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Temperature (°C) | 15 | 32 | 46 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 60 | 65 |

66 On the grid in your answer booklet, mark an appropriate scale on the axis labeled "Temperature (°C)." An appropriate scale is one that allows a trend to be seen. [1]

67 Plot the data from the data table. Circle and connect the points. [1]

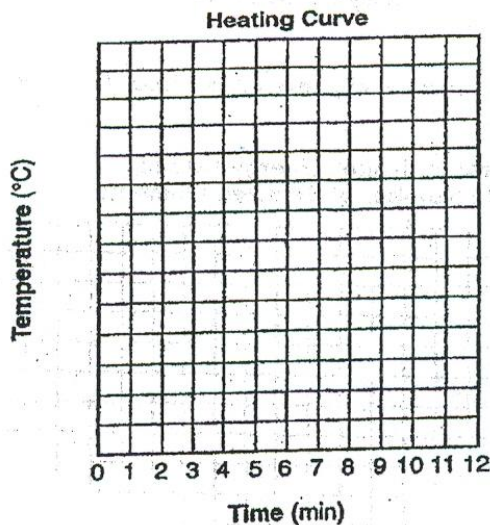


68 Based on the data table, what is the melting point of this substance? [1]

69 What is the evidence that the average kinetic energy of the particles of this substance is increasing during the first three minutes? [1]

70 The heat of fusion for this substance is 122 joules per gram. How many joules of heat are needed to melt 7.50 grams of this substance at its melting point? [1]

66 and 67



68 _____ °C

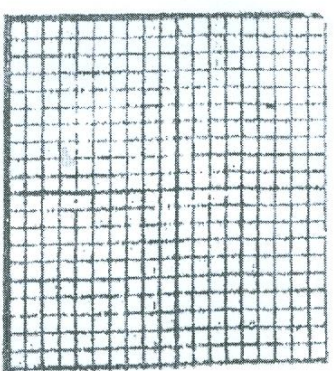
69 _____

70 _____ J

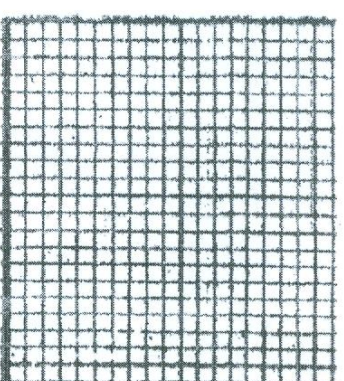
For the following graphs, just label the axes & sketch the relationships. Refer to your review notes & reference tables to complete them.

1) For an ideal gas,

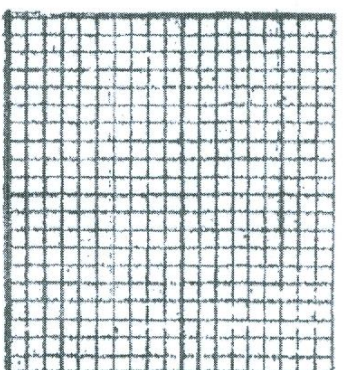
Volume vs Pressure
(at constant temperature)



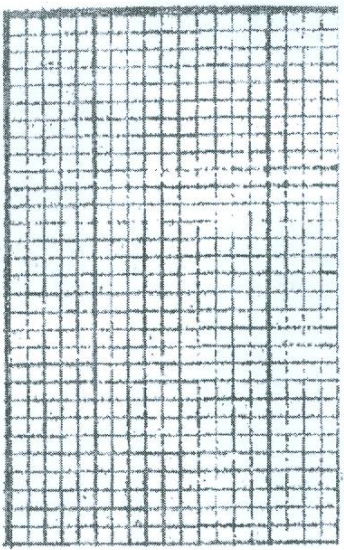
Volume vs Temperature
(at constant pressure)



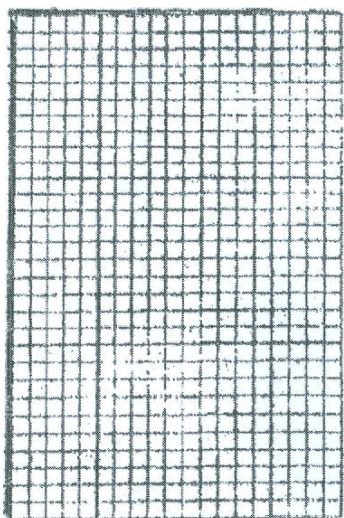
Pressure vs Temperature
(at constant volume)



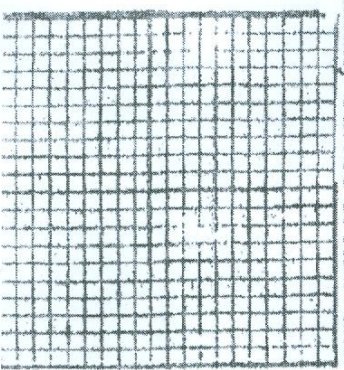
Heating Curve of Water (Temp vs Time)



Vapor Pressure Curves of Water & Propanone (P_{vapor} vs Temp)



Solubility Curves of NaCl and HCl (Solubility vs Temp)



Solubility Curve of CO₂ (Solubility vs Pressure)

