

Computer Graphing Practice

1. Graph $\frac{V}{T} = k$ and $PV = k$, where k is a constant, using a minimum of 5 data points for each.

2.

t (h)	0	2	4	6
conc HI (M)	1.00	0.50	0.33	0.25

Graph X , $\log_{10}X$, $\ln X$ and $\frac{1}{X}$ as a function of time, letting $X = \text{conc. HI}$.

3. Given: $\ln P = A - \frac{\Delta H_{\text{vap}}}{RT}$ Using $y = mx + b$, then

$$y = \ln P$$

$$m = \frac{\Delta H_{\text{vap}}}{R}$$

$$x = \frac{1}{T}$$

Plot the following data for cyclohexane and determine the value for ΔH_{vap} .

vp (mm Hg)	28	78	186	389
t (°C)	0	20	40	60

4. Plot the boiling point vs the concentration:

conc (m)	0.0	2.0	4.0	6.0	8.0	10.0
b.p. (°C)	98.6	99.9	100.2	102.9	103.9	106.4

Determine the slope, which represents the boiling point elevation constant for water. Since the accepted value for K_b is $0.52 \text{ } ^\circ\text{C}/\text{m}$, what % error does this student have?