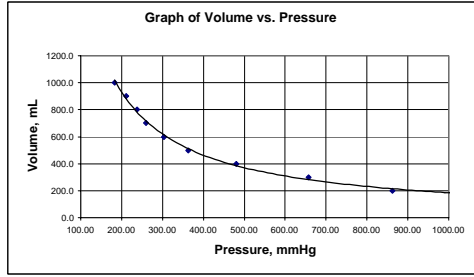


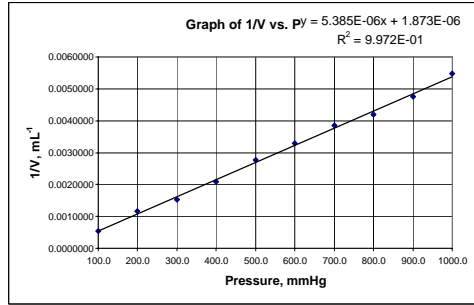
P, mmHg	V, mL
100.0	1858.74
200.0	862.07
300.0	657.89
400.0	480.77
500.0	362.32
600.0	303.03
700.0	259.74
800.0	238.10
900.0	210.53
1000.0	182.48



2. The line is not straight.

(a)

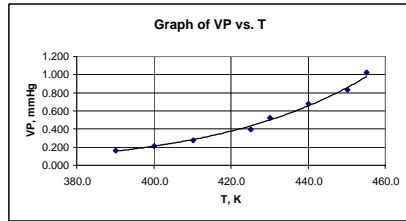
P, mmHg	1/V, mL <sup>-1</sup>
100.0	0.000537999
200.0	0.0011600
300.0	0.0015200
400.0	0.0020800
500.0	0.0027600
600.0	0.0033000
700.0	0.0038500
800.0	0.0041999
900.0	0.0047499
1000.0	0.0054801



slope =  $5.385 \times 10^6 \text{ mL}^{-1} \text{ mmHg}^{-1}$   
 Intercept =  $1.8732 \times 10^6 \text{ mL}^{-1}$

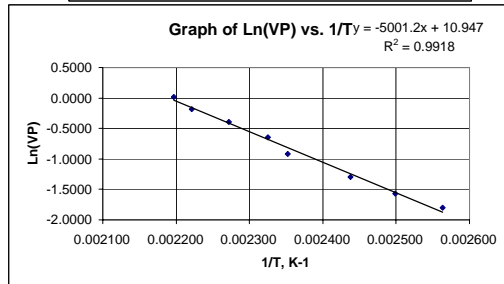
- (b) slope =  $5.385 \times 10^6 \text{ mL}^{-1} \text{ mmHg}^{-1}$   
 (c) Intercept =  $1.8732 \times 10^6 \text{ mL}^{-1}$   
 (d)  $Y = 5.385 \times 10^{-6} \text{ mL}^{-1} \text{ mmHg}^{-1} X + 1.873 \times 10^{-6} \text{ mol}^{-1}$

VP, mmHg	t, °C	VP, atm	T, K
776.2	182.0	1.021	455.2
631.0	177.0	0.8303	450.2
512.9	167.0	0.6749	440.2
398.1	157.0	0.5238	430.2
302.0	152.0	0.3974	425.2
208.9	137.0	0.2749	410.2
158.5	127.0	0.2086	400.2
125.9	117.0	0.1657	390.2



4.

Ln(VP)	1/T
0.0211	0.002197
-0.1860	0.002221
-0.3932	0.002272
-0.6466	0.002325
-0.9229	0.002352
-1.2915	0.002438
-1.5676	0.002499
-1.7978	0.002563



- (a) slope = -5001 K  
 (b) intercept = 10.947  
 (c)  $\ln(P_{\text{sat}}) = -5001 \text{ K} (1/T) + 0.9918$   
 (d) 333.1 K  
 (e)  $4.158 \times 10^4 \text{ J/mol}$   
 (f)  $8.273 \text{ J/mol K}$

t, °C	VP, mmHg	T, K	VP, atm	1/T, K <sup>-1</sup>	Ln(VP)
182.0	776.2	455.2	1.021	0.002197	0.0211
177.0	631.0	450.2	0.830	0.002221	-0.186
167.0	512.9	440.2	0.675	0.002272	-0.393
157.0	398.1	430.2	0.524	0.002325	-0.647
152.0	302.0	425.2	0.397	0.002352	-0.923
137.0	208.9	410.2	0.275	0.002438	-1.291
127.0	158.5	400.2	0.209	0.002499	-1.568
117.0	125.9	390.2	0.166	0.002563	-1.798

slope =  $-5.00 \times 10^4 \text{ K}$   
 intercept = 10.947

