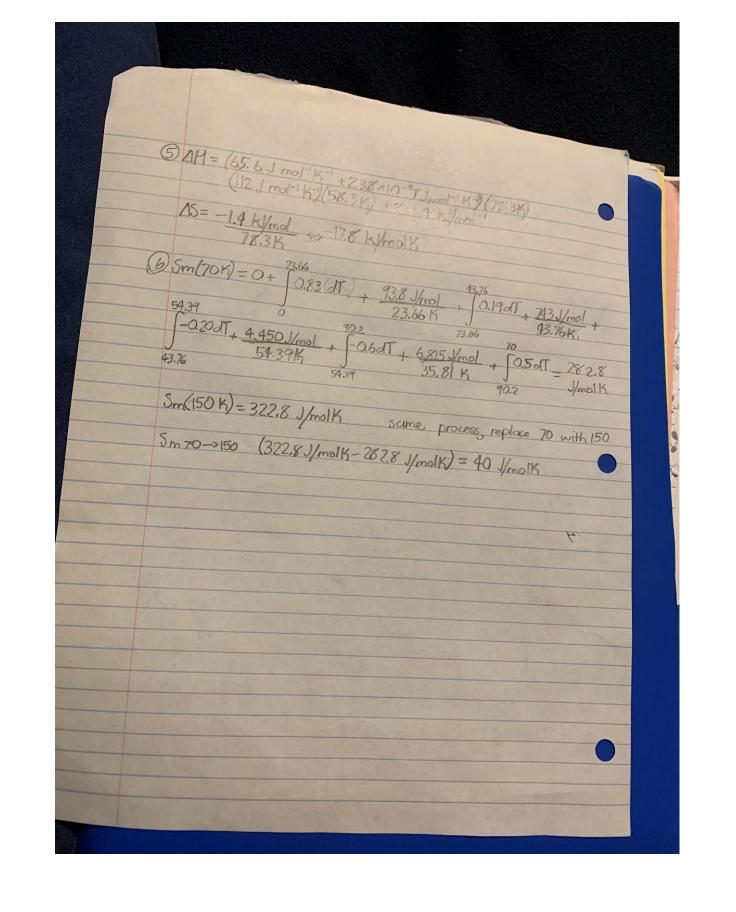
Kevin Marry 3-23-20

|   | "      |
|---|--------|
| Kevin Marry   |        |
| 5.12 Using the Part that 5 Ts a State Tunchon 15=(35) dT, (35) dV                     |        |
| 15=(35) dT (85) dV Sentrope Tetro   |        |
| Tetemperature (35). CV  |        |
| Cv= heat capacity (under t val)   |        |
| The second law of Herman  |        |
| The second law of Hermodynamics is applied here.  5.13 The Dependence of 5 on T and P |        |
| dS=(25) dT, (25) dP CP dT VBdP  |        |
| Cp = heat capacity (constant pressure)  |        |
| The second law of Hermodynamics is applied here.                                      |        |
| 6.1 The Gibbs Erergy and the Helmholtz Freigy   | -763 k |
| 16= 14-TDS G=Gibs every H=enthalpy  | 1/mol  |
| SA = AU-TAS A = Helmholtz erergy  | 2.30   |
| oth equations involve reactions   | 16= Al |
| e sexond law of Hermodynamics is applied here.  |        |
| marginalis is applied here  |        |

|   | 5.2 The  |                             |
|---|--|-----------------------------|
|   | M-LAPV A=U-15 G  | of UHA                      |
|   | M=UAPV A=U-15 G- M  DU-TOS-POW   | 2000                        |
|   | att = TOS+VOIP   | dA                          |
|   | 121270 - 6 126   |                             |
|   | 01/2-1   | 7863                        |
|   | law of Man   |                             |
|   | 6.3 The Dependence of the Gibl   | samies 5 applied here.      |
|   | 6.3 The Dependence of the Gible Erergies on By and T   | Telmholtz                   |
|   | ( ) J/T - 4 ( )  | TIPES (86)-11               |
|   | Sibbs-Helmholtz equation de  | 2 - 17                      |
|   | 2(1/T/P = H  | Contract copy to            |
| P | second low of How  | /mol                        |
|   | Trermod  | dynamics is applied here. K |
|   | College and the  | Vr                          |
|   | Total Salar Salar and a salar  |                             |
|   |  |                             |
|   | College of the   |                             |
|   | A STATE OF THE PARTY OF THE PAR |                             |

@ Int Vo @ Waxle= - (qcb+qcd) The total work is O. The efficiency has to be less than I because a cyclic process can't convert heat to work with 100% efficiency. dS=CP dT\_VBdP AHrm= (-1,364 KJ/mol+(-218 KJ/mol)+(-394 KJ/mol)-(-1,273 KJ/mol)=-763 KJ/mol 15° xn = (192 ymol K+ (161 J/mol K)+(213° J/mol K) - (209 J/mol K) = 357 J/mol K DSsur = (-763 KJ/mol) ≈ 2.56 KJ/mol K 15uni=357 J/molK-2.56 Ky/molK =-2,203 J/molk The reaction isn't sportsuneous because in the equation AG=SH-TAS, since AS is negative, and IASI>IAH, AG will be positive.



## Questions