Gaws Laws: Math

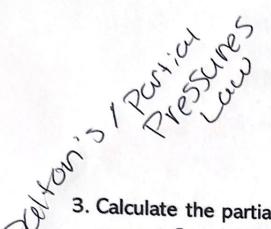
1. Write down the formulas for each Gas Law:

Gas Law	Formula
1. Boyles Law	PIVI=PZVZ
2. Charles Law:	PATELLA PARTU VITZ = VZT
3. Ideal Gas Law:	8 PV=NRT R=0,08
4. Combined Gas Law:	$\frac{P_1 V_1}{T_1} = \frac{P_2 V_2}{T_2}$
5. Avogadro's Law:	Vinz= Vz ni
6. Gay Lussac's Law:	Pitz = PzTi

2. Calculate the number of moles of Helium gas you will have at a temperature of 56 degrees a pressure of 3 atm, and a volume of 33.26ml.

$$R = 20.4M$$

(3atm) (0.033266) = 0.09978atml = n (3291 27.0109



3. Calculate the partial pressures exerted by a gas mixture of 33 percent O and 67 percent N with a total pressure of 5.63 atm.

4. A gas sample has an initial volume of 3.25 liters at a pressure of 4 atm. As the pressure increases, the volume decreases to 1.25 liters, what is the final pressure of the gas?

$$V_1 = 3.25L$$
 $P_1 = 4atm$
 $V_2 = 1.25L$
 $P_3 = ?$

$$P_1U_1 = P_2U_2$$

 $(4)(3.25) = (x)(1.25L)$
 $1.25L$
 $10.4atm = P_2$

Charles can

5. A car tire currently holds 66.53 liters of gas at a temperature of 56 degrees C, if the temperature increases to 400 degrees Kelvin, what will the resulting pressure of the tire be?

V= 66.53L T=329K T=400K V==?

U, Tr = UrT, (66.53L)(400)x5 = (x)(324L) 379/k 3729/k

80.89 Liters = V2

6. At a constant temperature and pressure, 4 moles of a gas sample has an initial volume of 3.56 liters. If you increase the gas to be 8 moles, what will the resulting volume be?

N= 4moles V=3.56 L Nz=8moles Vz=?

VINZ=V2NI (3.56L)(8 moles)=(x)(4mb) 4 Moles 4moles 7.12L=X