Name _____ Period _____

College Prep Chemistry of the Earth

Assignment 7N – *Ideal Gas Conversion Review* 20 Points

Complete the following problems based on the ideal gas law

Ideal Gas Law Forms	$P = \frac{nRT}{V}$	$V = \frac{nRT}{P}$	$n = \frac{PV}{RT}$	$T = \frac{PV}{nR}$
$PV = nRT$				

Ideal Gas Constant [*R*]	$R = 0.0821 \frac{L \cdot atm}{mol \cdot K}$	1atm = 760mmHg = 101.3kPa	1L = 1000mL

$K = {}^oC + 273.15$	${}^oC = K - 273.15$

P = 9.13atm, V = ____L,
n = 0.84mol, T = 385.41K

V = _____

V = _____ L

Convert V = ____L to V = ____mL

V = _____

V = _____ mL

P = 3.54atm, V = 4.02L,
n = 1.39mol SO_3, T = ____K

T = _____

T = _____ K

Convert T = ____K to T = ____ºC

T = _____

T = _____ ºC

Convert P = 939.10mmHg to P = ____atm

P = _____

P = _____ atm

P = ____atm, V = 2.09L,
n = ____mol, T = 372.49K

n = _____

n = _____ mol

T = 168.03°C, convert to K

T =	
T =	K

P = 5.39atm, V = 62.14L,
n = ____mol, T = ____K

n =	
n =	mol

P = 1.27atm, V = 1.94L,
n = ____mol NO_3, T = 381.47K

n =	
n =	mol NO_3

Molar Mass NO_3 = 62.01g/mol
n = ____mol NO_3, mass NO_3 = ____g NO_3

m = NO_3		
m = NO_3	g NO_3	

mass HCN = 173.20g, n = ____mol HCN
Molar Mass HCN = 27.03g/mol

n =		
n =	mol HCN	

P = ____atm, V = 3.27L,
n = ____mol HCN, T = 384.58K

P =	
P =	atm

mass CH_4 = 24.29g, n = ____mol CH_4
Molar Mass CH_4 = 16.05g/mol

n =		
n =	mol CH_4	

P = 3.82atm, V = 8.28L,
n = ____mol CH_4, T = ____K

T =	
T =	K