Name _____ Period _____

College Prep Chemistry of the Earth

Assignment 7L – *Unit Conversions with Ideal Gas Law* 30 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 = ____atm, V = 3.84L,
n = 1.34mol, T = 283.40K

P =	
P =	atm

Convert P = ____atm to P = ____kPa

P =		
P =	kPa	

P = 2.48atm, V = ____L,
n = 4.24mol, T = 472.41K

V =	
V =	L

Convert V = ____L to V = ____mL

V =		
V =	mL	

P = 5.28atm, V = 2.57L,
n = 2.47mol SO_2, T = ____K

T =	
T =	K

Convert T =____K to T = ____${}^oC$

T =	
T =	${}^oC$

Convert V = 384.30mL to V = ____L

V =

V = L

P = 2.83atm, V = ____L,
n = ____mol, T = 293.2K

n =

n =

T = 48.28°C, convert to K

T =

T = K

P = ____atm, V = 62.14L,
n = 3.41mol, T = ____K

P =

P =

Convert P = 928.38mmHg to P = ____atm

P =

P = atm

P = ____atm, V = ____L,
n = 0.93mol, T = 391.48K

V =

V =