

Name _____ Period _____

College Prep Chemistry of the Earth

Assignment 6K – Ideal Gas Law Review

20 Points

Complete the following problems based on the ideal gas law

<i>Ideal Gas Law Forms</i>	$P = \frac{nRT}{V}$	$V = \frac{nRT}{P}$	$n = \frac{PV}{RT}$	$T = \frac{PV}{nR}$
$PV = nRT$				
Ideal Gas Constant [R]	$R = 0.0821 \frac{\text{L}\cdot\text{atm}}{\text{mol}\cdot\text{K}}$			

$P = 0.84\text{atm}, V = 28.46\text{L},$ $n = 1.22\text{mol}, T = \underline{\hspace{1cm}}\text{K}$
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T =	
T =	

$P = \underline{\hspace{1cm}}\text{atm}, V = 41.37\text{L},$ $n = 2.57\text{mol}, T = 357.14\text{K}$
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P =	
P =	

$P = 1.35\text{atm}, V = 32.78\text{L},$ $n = \underline{\hspace{1cm}}\text{mol SO}_3, T = 428.45\text{K}$

n =	
n =	

Molar Mass $\text{SO}_3 = 80.07\text{g/mol}$ mass $\text{SO}_3 = \underline{\hspace{1cm}}\text{g SO}_3$
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mass $\text{SO}_3 =$		
mass $\text{SO}_3 =$		

mass HF = 42.57g, $n = \underline{\hspace{1cm}}\text{mol HF}$ Molar Mass HF = 20.01g/mol

n =		
n =		

$P = 1.27\text{atm}, V = \underline{\hspace{1cm}}\text{L},$ $n = \underline{\hspace{1cm}}\text{mol HF}, T = 427.42\text{K}$
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V =	
V =	

$P_{\text{CO}_2} = 3.61\text{atm}$, $P_{\text{H}_2} = 2.84\text{atm}$ $P_{\text{O}_2} = 1.35\text{atm}$, $P_{\text{Total}} = \underline{\hspace{1cm}}\text{atm}$		
$P_{\text{Total}} =$		
$P_{\text{Total}} =$		

$P_{\text{Total}} = \underline{\hspace{1cm}}\text{atm}$, $V = 24.62\text{L}$ $n = 1.31\text{mol}$, $T = \underline{\hspace{1cm}}\text{K}$		
$T =$		
$T =$		

$P_{\text{N}_2} = \underline{\hspace{1cm}}\text{atm}$, $V = 31.45\text{L}$ $n = 1.27\text{mol}$, $T = 327.24\text{K}$		
$P_{\text{N}_2} =$		
$P_{\text{N}_2} =$		

$P_{\text{N}_2} = \underline{\hspace{1cm}}\text{atm}$, $P_{\text{H}_2} = 1.84\text{atm}$ $P_{\text{CO}_2} = 5.21\text{atm}$, $P_{\text{Total}} = \underline{\hspace{1cm}}\text{atm}$		
$P_{\text{Total}} =$		
$P_{\text{Total}} =$		