

4. The balloon has a volume of 1.5L at a temperature of 22°C. It is taken into a walk-in freezer. After several minutes in the freezer, the volume of the gas is 1.35 L. What is the temperature of the freezer?

Given	Find	Equation	Substitution
$V_1 =$	T_2	$T_2 = \frac{T_1 V_2}{V_1}$	
$T_1 =$			
$V_2 =$			

IDEAL GAS LAW ($R = 8.315 \text{ L kPa/mol K}$, $R = 0.08206 \text{ L atm/mol K}$; volume in Liters, temp in Kelvin only!)

5. A cylinder of oxygen gas has a volume of 2.5 L. The pressure gauge reads 550 kPa when the room is 20°C. How many moles (n) of oxygen are in the cylinder?

Given	Find	Equation	Substitution
$V =$	n	$n = \frac{PV}{RT}$	
$P =$			
$T =$			
$R =$			

6. A chemist removes 0.200 moles of oxygen from the cylinder. What will the pressure gauge on the cylinder read now?

Given	Find	Equation	Substitution
$V =$	P	$P = \frac{nRT}{V}$	
$n =$			
$T =$			
$R =$			

7. What temperature will be required for 0.0100 moles of argon gas to have a volume of 275 mL and a pressure of 0.95 atm? (Watch units!)

Given	Find	Equation	Substitution
$V =$	T	$T = \frac{PV}{nR}$	
$P =$			
$n =$			
$R =$			