



Physical C	Chemistry_Chpt_	One_Properties of G	Gases 148.
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	Sign	ature	1st Semester-2021
University of Mustansiriyah			1 Semester-2021
Department of Chemistry			1st Exam-paper B
Q1: Circle the right answer for all of the	he following:		(50 points)
1: A vessel of 5000 mL capacity contains a certain amount of gas at 313 and 2 bar pressure. The gas is transferred to another vessel of volume 10000 mL at 40 °C. What should be its pressure?			
Answer: a) 1.0 atm b) 1.0	mmHg	c) 75 cmHg	d) 1.5 bar
2: If the particles of a gas are polar that means the difference between pideal and preal is			
Answer: a) low b) ed	jual	c) high	5/1
3: Calculate the temperature of 5000 mmol of a gas occupying 5.0 dm ³ at 3.3×10 ⁵ Pa?			
Answer: a) 40.2 °C b) 40	0.2 K c) 44.3	2°C d) 44.2	
4: Calculate the weight of NH ₃ (17 g.mol ⁻¹) in a 4 L cylinder at 8 atm and 300 K.			
Answer: a) 22.11 kg b) 22.11 g c) 23 K d) 23 °C			
5: Calculate the pc of a gas, if the pr is 0.44 and p is 1 bar.			
Answer: a) 2.27 K b) 2.27 atm c) 2.27 L d) 2.27 mol			
1: الحان هوة التحاذ ع هي السافدة علامين ان مول العارز هو الدا العادة على العارز هو التحاذ ع هي السافدة عدد العام			
Answer: (a) real (b) noble (c) perfect (d) compressed			
to the same of the	والكان للكم المولى وم		
7: According to the Dalton's law total mole fraction is equal to?			
Answer: a) Σn b) Σp _i	c) Σp _T	d) Σχ	
.) =	كرامول لذلك الماذ	والحن للمروح او المال	احسالفين
8: What is the partial pressure of a gas in a mixture, if the X _i is 1, and the conditions are at STP?			
Answer: (a) 0.99 torr (b) 0.89 bar	c) 0.900 atm	1 5	
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9: At high pressure the Z > 1 which means the dominated forces are? Answer: a) Van der Waal's b) equal c) repulsions d) attractions			
عاوي عاول المال			
10: According to Avogadro's law the amount of a gas at STP is?			
Answer: (a) 1.00 mol b) 2.00 mol c) 1.00 mmol d) 2.00 mmol			
V		B	
O2: The air inside a flexible 3.5 L cont	ainer has a pressure	of 115 kPa What shou	uld the volume of the container

be increased to in order to decrease the pressure to 625 torr? (25 points)

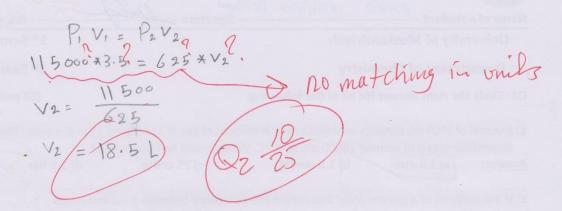
Q3: A 3 dm³ container holds 0.5 moles of N₂ gas at 42 °C. What is the pressure inside the container? (25 points)

09/11/2021

Best wishes

Dr Abduljabbar I. R. Rushdi

 $Q2/V_1 = 3.5 L$ $P_1 = 115 \text{ KPa} \rightarrow 115 \times 1000 = 115000 Pa}$ $V_2 = ?$ $P_2 = 625 \text{ tov}$



Q3/1

3//

$$V=3 dm^3 \rightarrow V=\frac{3}{1000} cm^3 \rightarrow V=0.003 cm^3$$

 $N=0.5 \text{ moles} \qquad \ell=42^{\circ}c \qquad T(K)=\frac{0}{2}c+\frac{273}{273}$
 $=\frac{42}{273}$
 $=\frac{42}{273}$
 $=\frac{315}{273}$

 $P \times 6 \times 0.03 = 0.5 \times 0.082 \times 315$ $P = \frac{0.5 \times 0.082 \times 315}{0.003}$ $= \frac{12}{0.003}$ = 43.05 adm