CHEMBUDDY CHAPTER 5

5.1 GAS

CHOOSE THE CORRECT ANSWER

NO	QUESTION	ANSWER
1	A cylinder is filled with 4 g of methane and 4 g of nitrogen gas at pressure 1 Carbon dioxide gas with mass 2.20 g is introduced to a 3.0 L vessel at 295 K. What is the pressure of carbon dioxide gas in that vessel? A. 0.50 atm C. 0.25 atm B. 0.36 atm D. 0.20 atm	A B C D
2	A sample of CO_2 gas occupied 3.0 L vessel at 35°C and pressure 1 atm. What is the new volume if the temperature and pressure are changed to 48 ^{0}C and 1.5 atm respectively? A. 1.9 L C. 3.4 L B. 2.1 L D. 4.3 L	A B C D
3	The total pressure of a mixture of oxygen and nitrogen gas is 400.0 kPa. What is the partial pressure of nitrogen (in atm) if the pressure of oxygen is 150.0 kPa? A. 250 C. 5.43 B. 2.47 D. 2.50	A B C D
4	Halothane gas is mixed with 0.187 mol of oxygen gas in a respiratory tank as anesthetic drug. If the partial pressure of halothane gas and oxygen gas are 0.3 atm and 3.0 atm respectively, what is the mass of halothane in the tank? (molar mass of halothane gas = 197.4 $gmol^{-1}$) A. 17.9 g C. 19.7 g B. 0.7 g D. 3.7 g	A B C D

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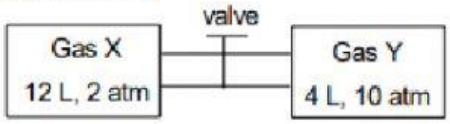
5	0.112 of an organic liquid was completely vaporized in a gas syringe at 127°C and a pressure of 101 kNm^{-2}. The vapour produced occupied a volume of 81.8 cm^3. Calculate the relative molecular mass of the organic liquid. A. $4.39x10^{-3}$ C. $4.45x10^{-4}$ B. 0.045 D. 45.10	A B C D
6	The following figure shows two flasks connected by a valve. Each flask contains gas X and gas Y separately at temperature T.  A. 1.5 atm C. 4.0 atm B. 2.5 atm D. 6.0 atm	A B C D
7	If 27 L of gas at a temperature of 67 ^{0}C and a pressure of 93 atm, what will be the pressure of the gas if the temperature increase to 94°C and the volume decrease to 12 L? A. 114.5 atm C. 238.9 atm B. 225.9 atm D. 149.1 atm	A B C D
8	A gaseous mixture contains 5.0 moles of nitrogen and 10.0 moles of helium. The total pressure in the container is 3.0 atm. What is the partial pressure of the nitrogen? A. 0.5 atm C. 1.0 atm B. 2.0 atm D. 3.0 atm	A B C D

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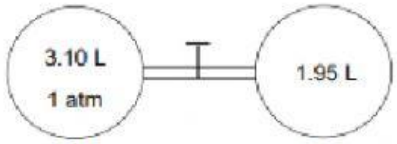
9	How many moles of propane gas are in a 7.0 L tank at 20°C and 5.45 atm of pressure? A. 1.59 mol C. 0.917 mol B. 23.2 mol D. 0.629 mol	A B C D
10	 Referring to the above diagram, a sample of ideal gas is enclosed in bulb **J**, 1 atm with capacity of 3.10 L and another bulb **K** is evacuated. When the stopcock is opened, the gas fills both the bulbs. If the temperature remains constant, determine the new pressure of the gas. A. 1.59 atm C. 1.00 atm B. 0.61 atm D. 0.63 atm	A B C D
11	A glass bulb contains 4.0 g of a gas at pressure of 100 kPa. If the pressure in the bulb is lowered to 0.1 kPa by removing gas from it, what is the number of molecules that will be left in the bulb? (molar mass of gas = 40) A. 6×10^{18} C. 6×10^{20} B. 6×10^{19} D. 3×10^{20}	A B C D
12	A 250 mL sample of oxygen is collected over water at 25°C and 760.0 torr pressure. What is the pressure of the dry gas alone? (Vapor pressure of water at 25° C = 23.8 torr) A. 783.8 torr C. 205.38 torr B. 1250 torr D. 736.2 torr	A B C D

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