

University of Mustansiriyah

1st Semester-2021

Department of Chemistry

1st Exam-paper B

Q1: Circle the right answer for all of the following:

1: Helium represents a.

Answer:

a) real gas (b) ideal gas

c) noble gas d) heavy gas

2: A 0.2 L container contains a certain amount of gas at 1.0 bar pressure. The gas is transferred to another vessel of volume 0.5 dm³. What should be it is pressure?

Answer:

(a) 0.60 atm b) 0.40 dm³

c) 0.4 atm d) 0.4 mmHg

3: A gas occupies 299 dm³ at 127 °C and 760 mm pressure. What would be it is volume at STP?

Answer:

a) 199.8 L b) 199 dm³ c) 200 L d) 204 dm³

4: Calculate the weight of CH₄ (16 g.mol⁻¹) in a 10 L cylinder at 15 atm and 34 °C.

a) 95.33 g mo(1) b) 95.33 g c) 85.80 mol (d) 86.65 g/s

5: Calculate the number of moles for CH₄ in a 12 L cylinder at 14 bar and 28 °C.

Answer:

a) 6.8 mol (b) 6.9 mol c) 6.5 mol d) 6.7 mol

6: According to Graham's law the heaviest gas is?

Answer:

a) H₂ b) O₂ c) N₂ d) CO₂

7: According to the Avogadro's law the amount of a substance is directly proportional with?

Answer:

a) p b) T c) R (d) V

8: The difference between real and ideal gas is one of the following?

Answer:

a) p & V b) T & n c) d) attraction forces & volume of a gas

9: It can know the molecular mass of un known gas by applying one of the following?

Answer:

a) Boyle's law (b) Graham's law c) Charles's law d) Gay-Lussac's law

10: If V_m is bigger than V_m^0 then this means the behaviour of a gas is?

Answer:

a) Real b) Ideal c) Real & ideal d) Z = 0

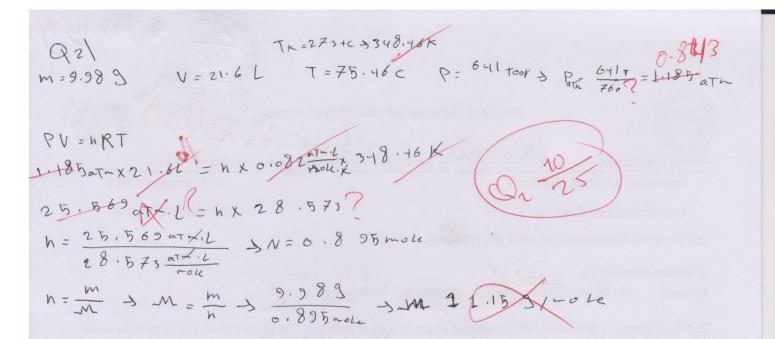
Q2: A gas sample has a mass of 9.98 g. Its volume is 21.6 L at a temperature of 75.46 $^{\circ}$ C and a pressure of 641 Torr. Calculate its molar mass.

Q3: A 1.3 mole of Ar gas is placed in a container at 27 °C at a pressure of 725 torr. What is the volume of the container in ml?

12/01/2021

Best wishes

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VC-2) = 33557 ~ L