Unit 10 – Chapter 5: Gas Laws	Name
Take Home Quiz #1	Period
1) The Hindenburg was a hydrogen-filled dirigible that exploded in 1937. I	f the Hindenburg held

2.0 X 10^5 m³ of hydrogen gas at 23^oC and 1.0 atm, what mass of hydrogen was present? (Hint: 1 cm³ = 1 ml)

2) A neon sign is made of glass tubing whose inside diameter is 2.5 cm and whose length is 5.5 m. If the sign contains neon at a pressure of 1.78 torr at 35° C, how many grams of neon are in the sign? (The volume of a cylinder is πr^{2} h)

3) If the pressure exerted by ozone, O_3 , in the stratosphere is 3.0×10^{-3} atm and the temperature is 250 K, how many ozone molecules are in 1.0 liter?

- 4) A scuba diver's tank contains 0.29 kg of O₂ compressed in a volume of 2.3 liters.
 - a. Calculate the gas pressure inside the tank at 9° C.
 - b. What volume would this oxygen occupy at 26° C and 0.95 atm?

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- 5) Many gases are shipped in high-pressure containers. Consider a steel tank whose volume is 65.0 liters and which contains O₂ gas at a pressure of 16,500 kPa at 23^oC.
 - A. What mass of O_2 does the tank contain?
 - B. What volume would the gas occupy at STP?
 - C. At what temperature would the pressure in the tank equal 150.0 atm?
 - D. What would the pressure of the gas, in kPa, be if it were transferred to a container at 24° C whose volume is 55.0 liters?

Α.

Β.

C.

D.