
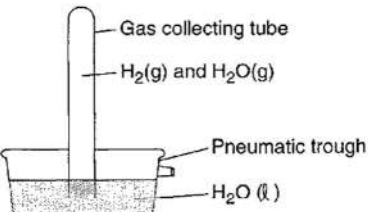


Gases Practice

For the following problems, you must identify the gas law associated with each problem (if applicable) and explain your answer choice/show your work.

Question and Answer	Explanation/Work
<p>1. Which kelvin temperature is equal to 56°C?</p> <p>A. -329 K C. 217 K B. -217 K D. 329 K</p>	
<p>2. Determine the gas pressure inside each bulb. Assume the atmospheric pressure is 755 mm Hg.</p> 	
<p>3. A student measured the pressure of the gas contained in a tank at 646 mm Hg. What is this pressure in atmospheres?</p> <p>A. 0.85 atm B. 1 atm C. 1.2 atm D. 646 atm</p>	
<p>4. A sample of chlorine gas is at 300. K and 1.00 atmosphere. At which temperature and pressure would the sample behave more like an <i>ideal gas</i>?</p> <p>A. 0 K and 1.00 atm B. 150. K and 0.50 atm C. 273 K and 1.00 atm D. 600. K and 0.50 atm</p>	
<p>5. A tank contains equal molar quantities of He, Ne, Ar, and Kr. If a tiny valve is opened, which gas will escape from the tank the fastest?</p> <p>A. He B. Ne C. Ar D. Kr</p>	

Question and Answer	Explanation/Work
<p>6. What is the total pressure exerted by a mixture containing two gases if the partial pressure of one gas is 70 torr and the partial pressure of the other gas is 30 torr?</p> <p>A. 30 torr B. 40 torr C. 70 torr D. 100 torr</p>	
<p>7. A mixture of oxygen, nitrogen, and hydrogen gases exerts a total pressure of 740 mm Hg at 0°C. The partial pressure of the oxygen is 200 mm Hg and the partial pressure of the nitrogen is 400 mm Hg. What is the partial pressure of the hydrogen gas in this mixture?</p> <p>A. 140 mm Hg B. 200 mm Hg C. 400 mm Hg D. 740 mm Hg</p>	
<p>8. At STP, which sample contains the same number of molecules as 11.2 liters of CO₂ (g) at STP?</p> <p>A. 5.6 L of NO₂(g) B. 11.2 L of N₂(g) C. 7.5 L of H₂(g) D. 22.4 L of CO(g)</p>	
<p>9. The diagram given shows the collection of H₂ gas over water at 25°C. The total pressure in the tube is 760.0 torr. What is the pressure exerted by the hydrogen gas alone? The vapor pressure of water at 25°C is 23.8 torr.</p>  <p>A. 23.8 torr B. 736.2 torr C. 760.0 torr D. 793.8 torr</p>	

Question and Answer	Explanation/Work
<p>10. A rigid cylinder contains a sample of gas at STP. What is the pressure of this gas after the sample is heated to 410 K?</p> <p>A. 1.0 atm B. 0.50 atm C. 0.67 atm D. 1.5 atm</p>	
<p>11. The volume of a sample of a gas at 273°C is 200 liters. If the volume is decreased to 100 liters at constant pressure, what will be the new temperature of the gas?</p> <p>A. 0 K B. 100. K C. 273 K D. 546 K</p>	
<p>12. A 2.5-liter sample of a gas is at STP. When the temperature is raised to 273°C and the pressure remains constant, the new volume of the gas will be</p> <p>A. 1.25 L B. 2.5 L C. 5.0 L D. 10. L</p>	
<p>13. A tire was pumped with 6.5 moles of air to give a volume of 1.35 L. The tire had a leak and the new volume is 0.98 L. How many moles of gas is this?</p> <p>A. 0.20 mol B. 4.72 mol C. 8.60 mol D. 8.95 mol</p>	

Question and Answer	Explanation/Work
<p>14. A gas at STP has a volume of 1.0 liter. If the pressure is doubled and the temperature remains constant, the new volume of the gas will be</p> <p>A. 0.25 L B. 2.0 L C. 0.50 L D. 4.0 L</p>	
<p>15. What is the volume of 1.50 moles of an ideal gas at STP?</p> <p>A. 11.2 L B. 22.4 L C. 33.6 L D. 44.8 L</p>	
<p>16. At 25°C, gas in a rigid cylinder with a movable piston has a volume of 145 mL and a pressure of 125 kPa. Then the gas is compressed to a volume of 80 mL. What is the new pressure of the gas if the temperature is held at 25°C?</p> <p>A. 69 kPa B. 93 kPa C. 160 kPa D. 230 kPa</p>	