

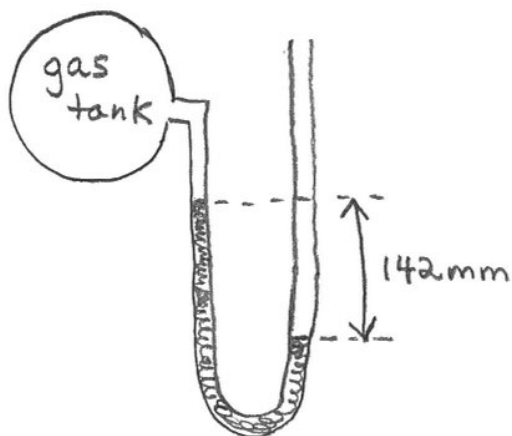
Show all work for credit! Use correct significant figures and units. Circle final math answers.

Please use your notes if needed. DO NOT take answers from or give answers to another student. DO NOT share the contents of the quiz with another student.

***I affirm that I will only use sources approved by my teacher and that all work on this assessment is entirely my own. I also affirm that I will not share the contents of this quiz with anyone.***

Your signature \_\_\_\_\_ Date \_\_\_\_\_

1. A sample of oxygen gas is collected in a eudiometer over water when the room temperature is  $23.0^{\circ}\text{C}$  and the barometer reads 759 torr. If the volume of the gas is 42.45 mL, what is the mass of the collected gas? The vapor pressure of water at  $23.0^{\circ}\text{C}$  is 21.073 torr.
2. A 2.3 L sample of helium gas has a pressure of 3.5 atm when the temperature is  $18.0^{\circ}\text{C}$ . What would be the volume of the helium at STP?
3. A sample of carbon monoxide and a sample of fluorine are the same temperature. Which effuses faster – the carbon monoxide or the fluorine? Justify your choice. How much faster is the faster gas?
4. Nitrogen and hydrogen react according to the equation  $\text{N}_2(\text{g}) + 3\text{H}_2(\text{g}) \rightarrow 2\text{NH}_3(\text{g})$ . The reaction takes place in a 3.00 L container at a temperature of  $118^{\circ}\text{C}$ . If 3.00 g of nitrogen reacts completely with 0.400 g of hydrogen, what will be the total pressure in the container after the reaction is complete?
5. What is the pressure of the gas in the tank in atm?



Barometric  
Pressure = 759 mmHg