0.70 mol of a substance M_2X_3 is dissolved in 500g of water. The freezing point of this solution is -9.6°C. What is the theoretical and measured van't Hoff factor? What is the boiling point of this solution?
$K_f = 1.86$°C/m ; $K_b = 0.512$°C/m

A heliox deep sea diving mixture contains 2.0g of oxygen to every 98.0 g of He. What is the partial pressure of oxygen when this mixture is delivered at a total pressure of 8.5 atm?

The hydrogen gas formed in a chemical reaction is collected over water at 30.0°C at a total pressure of 732 mmHg. If the total volume of gas collected is 722mL, what mass of hydrogen gas is collected?

Calculate the root mean square velocity and kinetic energy of SO_3 at 298K.

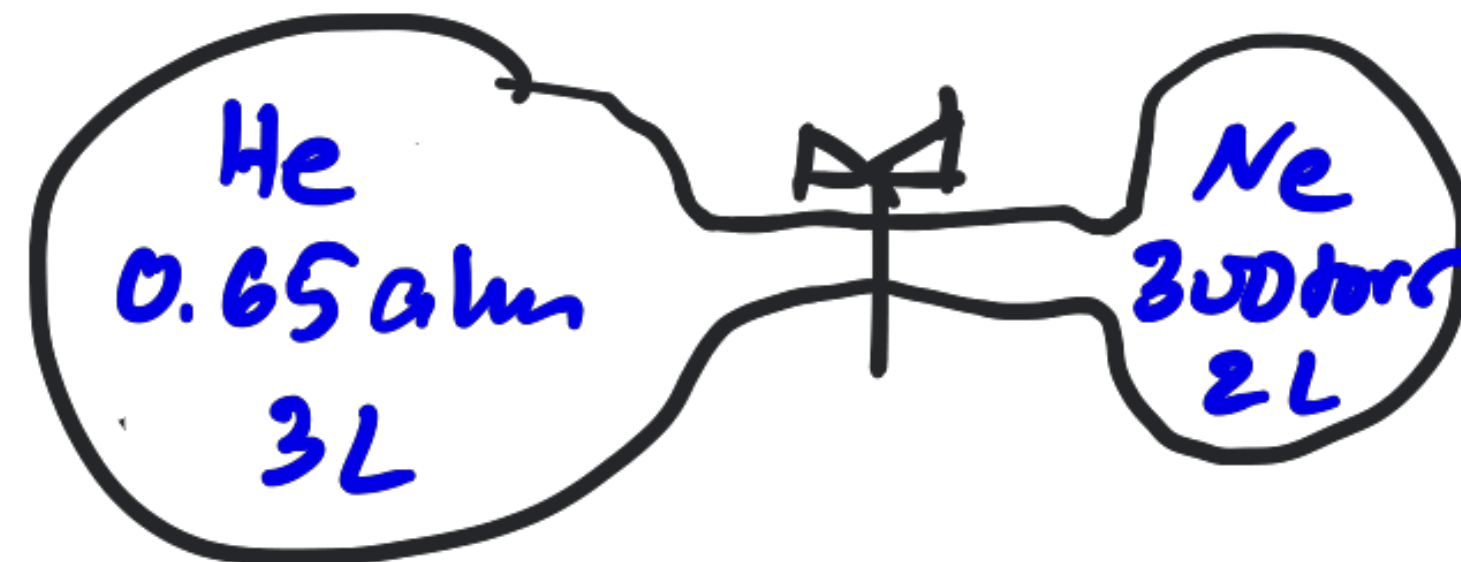Rank F_2, Cl_2 and Br_2 with respect to their rate of effusion

Calculate Pgas for each case if the atmospheric pressure is 0.96 atm!

Pgas   Pgas   Pgas

10.1cm   7.5cm   67mm

Hg   Hg   Hg
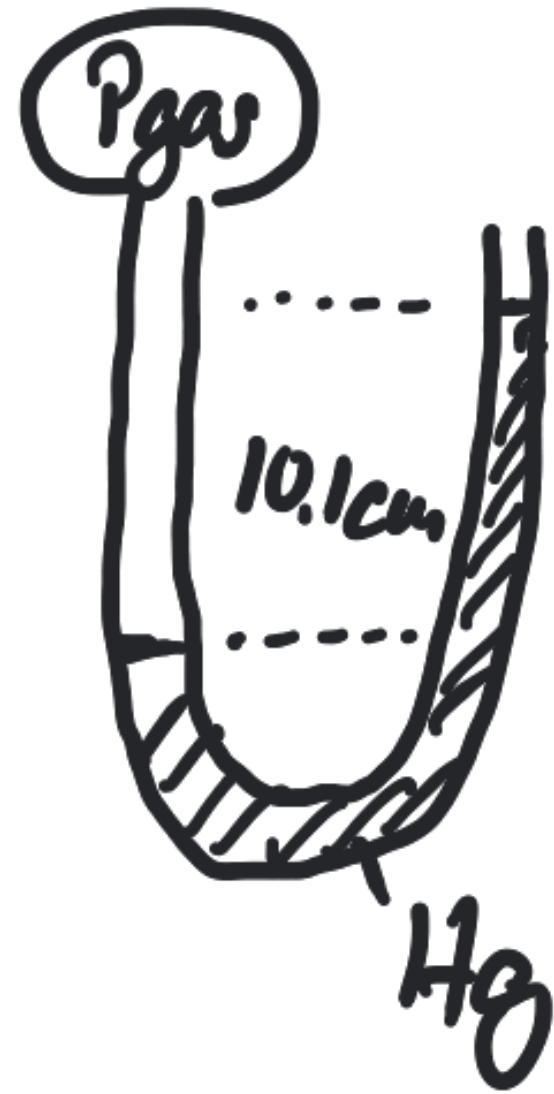
Calculate the partial and total pressures of He and Ne when the stopcock is opened.

He
0.65 atm
3L

Ne
300 torr
2L

What is the volume of 33.6 g Ne at STP ?

Write the balanced equation for the complete combustion of pentane. How many grams of CO_2 are produced from burning 600g of pentane?

A solid sample of $Mg(OH)_2$ is added to 400mL of 0.200M aqueous HCl. The solution remains acidic. It is titrated with 97ml of 0.300M NaOH solution to reach the equivalence point. What mass of $Mg(OH)_2$ was added to the HCl solution?