

Chem I Lab: Gram Molar Volume of Hydrogen. Name: _____

Block: _____ Teacher: _____ Date: _____ Partner(s): _____

*=data to be recorded in lab. ()=data needed for that calculation	Trial # 1.	Trial # 2	Trial # 3 (if needed)
A.* Length of Mg ribbon used, in meters. 3 S.F. or more	m	m	m
B.*Mass of 1.000 m of Mg ribbon: g/m	g/m	g/m	g/m
C.Mass of Mg ribbon used, g. Show set-up on back (A, B)	g	g	g
D. Atomic mass of Mg, g/mol 4 S.F. or more	g/mol	g/mol	g/mol
E. Moles of Mg used. Show set-up on back. (C, D)	mol Mg	mol Mg	mol Mg
F.*Volume of gas collected, $\geq 3SF$ Water levels must be equal	cm ³	cm ³	cm ³
G.* Temperature of room, and H ₂	°C K	°C K	°C K
H.* Barometric pressure, mmHg	mm Hg	mm Hg	mm Hg
I. Vapor pressure of water at room temperature, mmHg	mm Hg	mm Hg	mm Hg
J. Pressure of H ₂ when collected mmHg (H, I)	mm Hg	mm Hg	mm Hg
K. Moles of H ₂ produced, according to stoichiometry (same as E)	mol H ₂	mol H ₂	mol H ₂
L. Volume of H ₂ produced, corrected to S.T.P. conditions from lab. T & P. (F, G, J) (Show set-up on back)	cm ³	cm ³	cm ³
M. Volume of 1.000 mole of H ₂ at S.T.P. (F, G, J, K) (Show set-up on back)	cm ³ L	cm ³ L	cm ³ L
N. Percent error, from accepted 22.4 L/mol @STP (M)	%	%	%
O. Volume of H ₂ theoretically expected to have been produced in this expt., assuming that the G.M.V. is 22.4L/mol @ STP (F, G, J, K) Show set-up on back	cm ³	cm ³	cm ³
P. Volume of 1.000 mole of H ₂ @SATP (F, G, J, K) Show set-up on back	L	L	L

GMVH₂ Lab: Calculations. p.2

Name: _____

Calculations; Watch out for units, decimals, and significant figures. Show calculations for **both** (or all three, if necessary) runs.

C.

E.

L.

P₁ (J) P₂ 760 mmHg

V₁ (F) V₂ ? cm³

n₁ (K) n₂ (K)

T₁ (G) T₂ 273.15K

M.

P₁ (J) P₂ 760 mmHg

V₁ (F) V₂ ? cm³, ? L

n₁ (K) n₂ 1.000 mol

T₁ (G) T₂ 273.15K

O.

P₁ 760mmHg P₂ (J)

V₁ 22400cm³ V₂ ? cm³

n₁ 1.000mol n₂ (K)

T₁ 273.15K T₂ (G)

P.

P₁ (J) P₂ 750. mmHg

V₁ (F) V₂ ? L

n₁ (K) n₂ 1.000mol

T₁ (G) T₂ 298.15K

N. % error = [(M, in liters) - 22.4] x 100% ÷ 22.4. Show sign, + or -.