E2

Ni: [Ar] $4s^2$ $3d^8$

outermost

Ni^{+2} [Ar] $3d^8$

Dec 4-7:51 AM

Ec 1

$\frac{17.7 KJ}{Mole\ S}$, ___ g S, 22.5 KJ

$\frac{1 \text{ Mole S}}{17.7 \text{ KJ}} \times \frac{22.5 \text{ KJ}}{} \times \frac{32 g\ S}{1 \text{ Mole S}}$

Dec 4-8:16 AM

(EC2)

$$E = R_H\left(\frac{1}{n_i^2} - \frac{1}{n_f^2}\right)$$

Find λ

$n=2 \rightarrow n=1$

$$E = R_H\left(\frac{1}{4} - \frac{1}{1}\right) = -\frac{3}{4}R_H$$

$$\frac{\lambda}{1} = \frac{hc}{E}$$

$E = hf$

$\frac{E}{1} = \frac{hc}{\lambda}$

$c = f\lambda$

$f = \frac{c}{\lambda}$

$$\frac{\lambda}{1} = \frac{hc}{\frac{3}{4}R_H}$$

$$= \frac{4}{3}\frac{hc}{R_H}$$

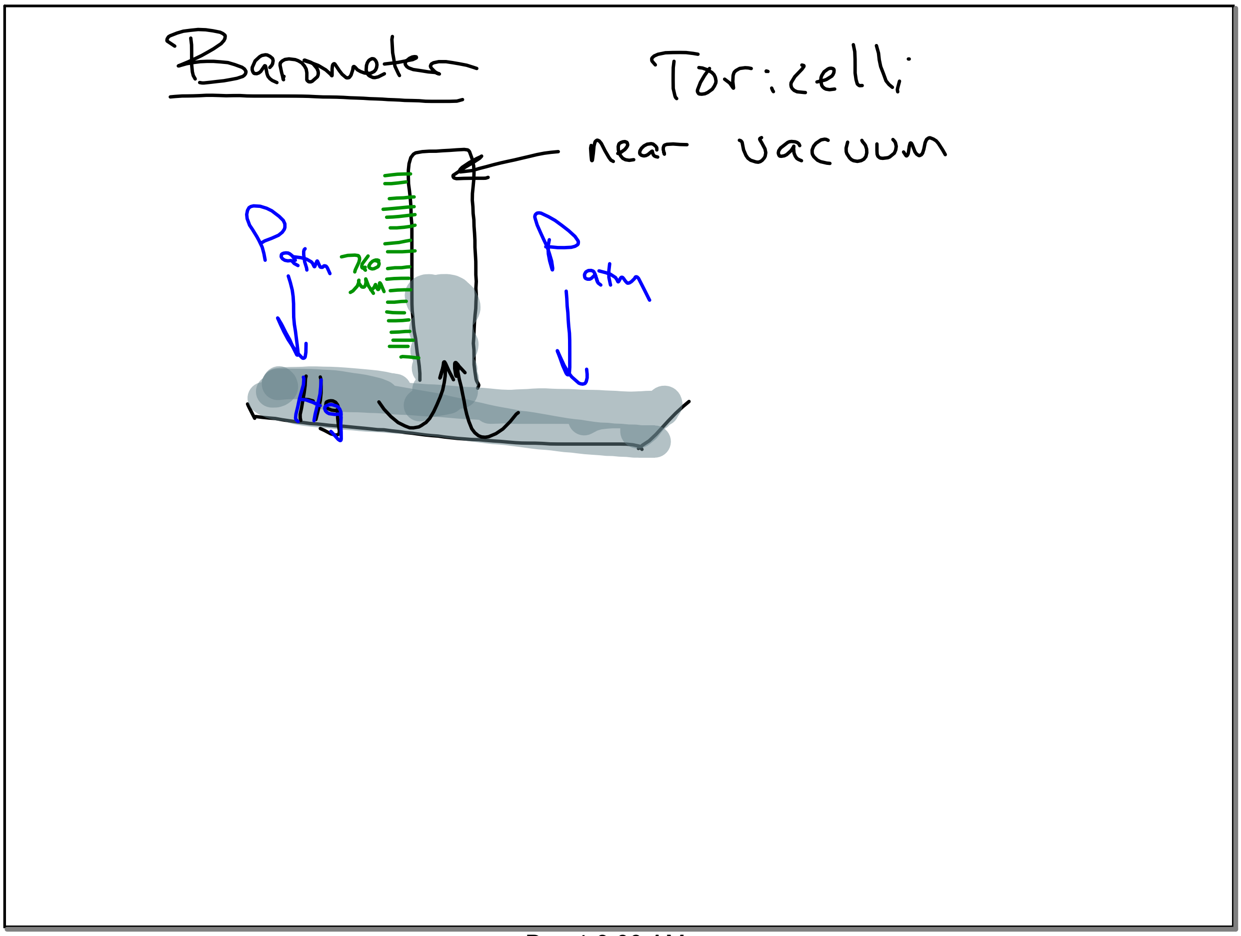
Dec 4-8:17 AM

$$\frac{\text{Pressure}}{1} = \frac{\text{Force}}{\text{Area}} = \frac{\text{newtons}}{m^2}$$

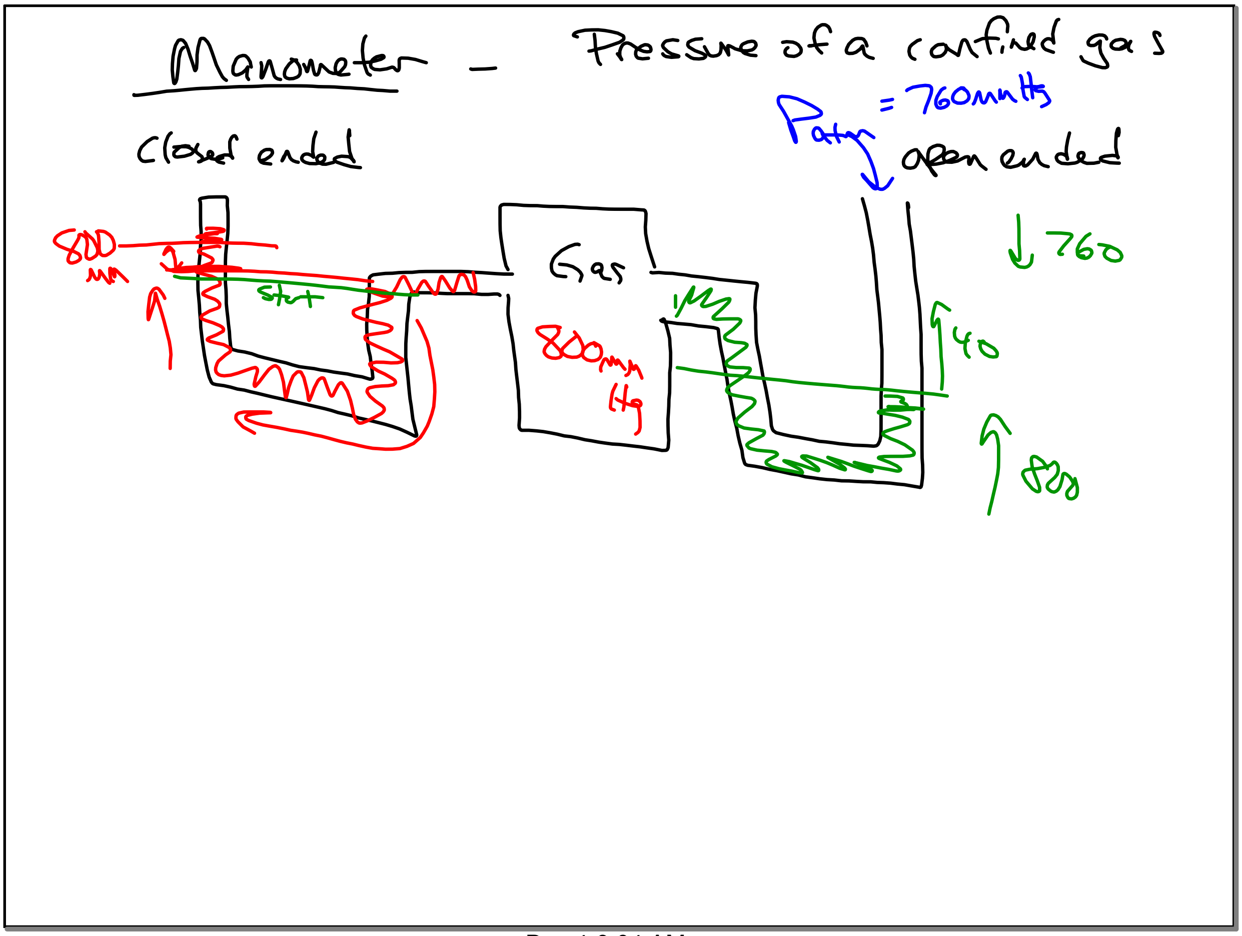
1 atm = 101.35 KPa = 760 torr = 760 mmHg

76 cmHg

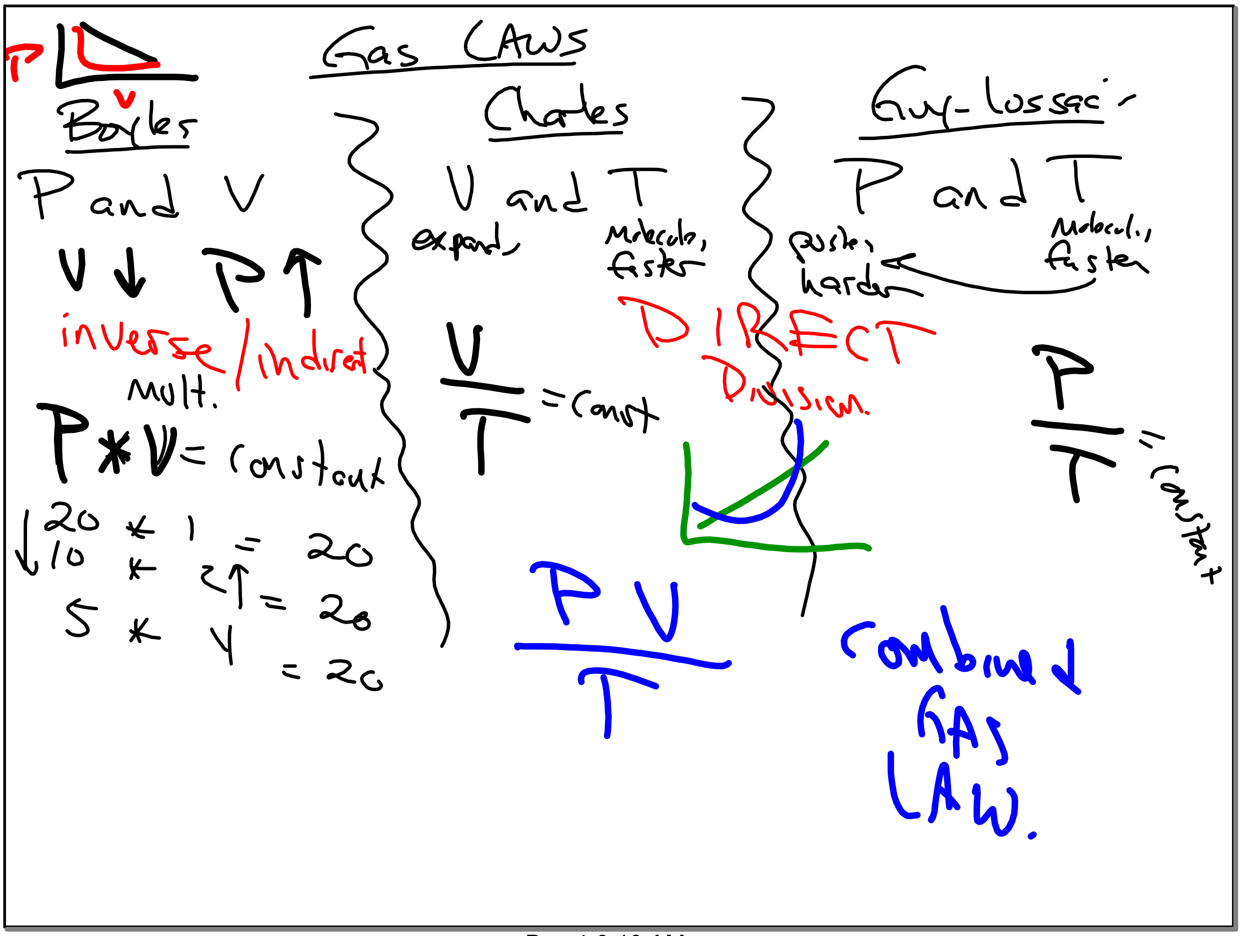
Dec 4-8:56 AM



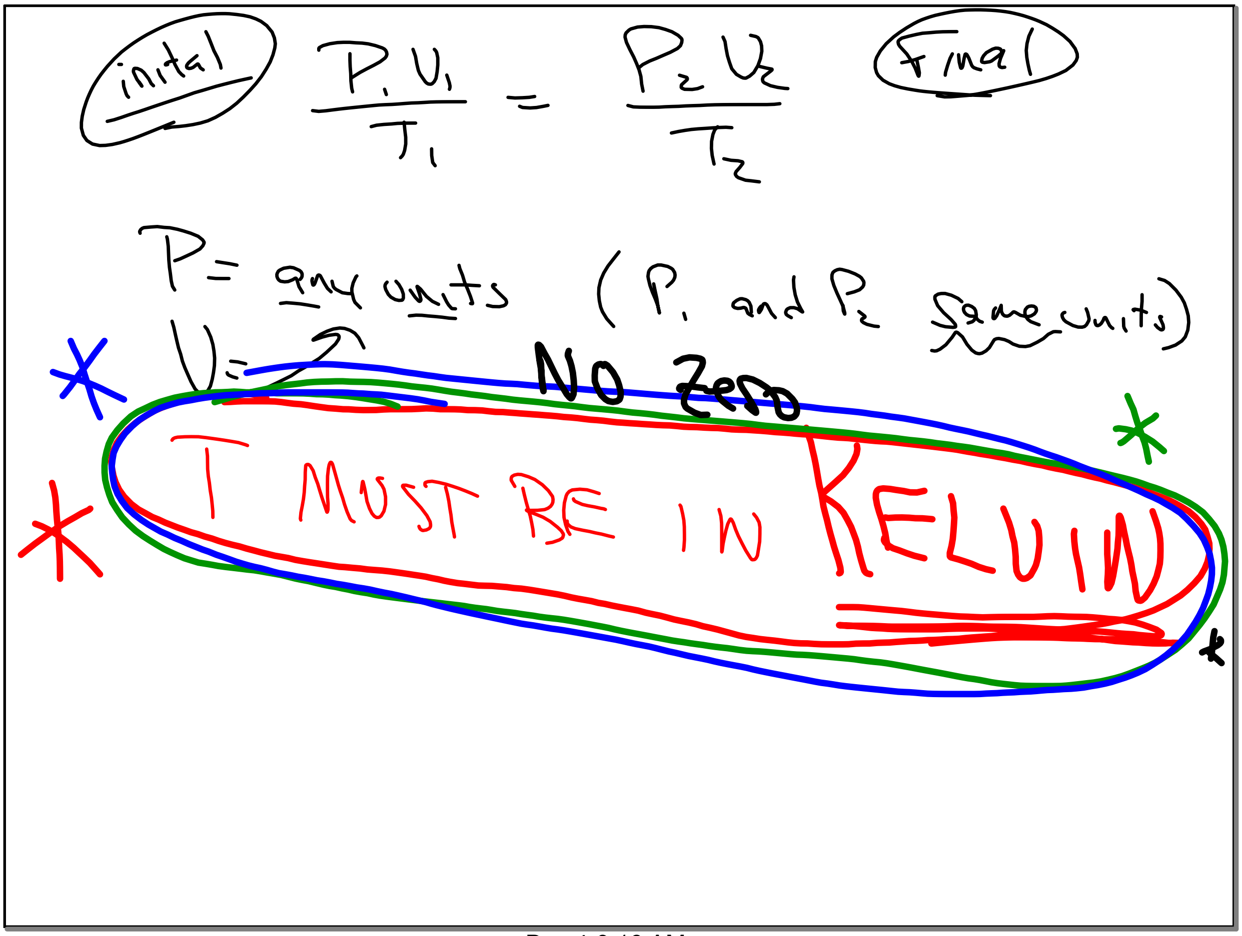
Dec 4-9:00 AM



Dec 4-9:04 AM



Dec 4-9:10 AM



Dec 4-9:16 AM

Ideal Gas equation

at 1 mole — 1 mole of any gas = 22.4 l of That Gas

STP

$$PV = nRT$$

n ← Moles

R ← Universal gas constant

Dec 4-9:19 AM

$$PV = nRT$$

$$R = \frac{PV}{nT} = \frac{l * atm}{mole * K} = 0.08206 \frac{l \cdot atm}{mole \cdot K}$$

(V, P)

Dec 4-9:22 AM

$$PV = nRT$$

$$\frac{\text{moles}}{1} = \frac{\text{grams}}{MW}$$

$$\frac{PV}{1} = \frac{gRT}{MW}$$

$$\frac{MW}{1} = \frac{gRT}{PV}$$

$$\frac{g}{1} = \frac{PV(mw)}{RT}$$

Dec 4-9:25 AM

Density of a Gas

$$\frac{\text{mass}}{\text{Volume}} = \frac{g}{V} = d$$

$$PV = nRT$$

$$\frac{PV}{1} = \frac{gRT}{MW}$$

$$d = \frac{g}{V} = \frac{P(mw)}{RT}$$

Dec 4-9:27 AM

10/20, 23, 34

Dec 4-9:32 AM