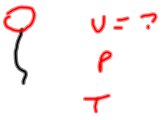


3.0 L
2 mol H_2
12°C
P = ?

1 mol O_2
P_{O_2} = ?
P_T = ?

rxn → 348°C
P_T = ?

$2H_2 + O_2 \rightarrow 2H_2O$

3 mols H_2 2 mols

$3 \text{ mols } H_2 \times \frac{2 H_2O}{2 H_2} = 3 \text{ mols } H_2O$

$2 \text{ mols } O_2 \times \frac{2 H_2O}{1 O_2} = 4 \text{ mols } H_2O$

$3 \text{ mols } H_2O \times \frac{1 O_2}{2 H_2O} = 1.5 \text{ mols } O_2 \text{ used}$

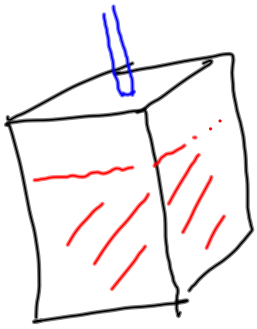
$2 \text{ mols} \left(\frac{3}{4}\right) = 1.5 \text{ mol } O_2 \text{ used}$

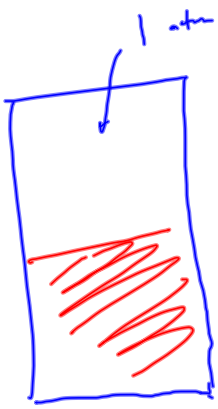
end
3 mols H_2O
.5 mol O_2

$P_{O_2} + P_{H_2O}$

$\frac{n_{O_2}RT}{V} + \frac{n_{H_2O}RT}{V}$

$(n_{O_2} + n_{H_2O})\frac{RT}{V}$





V ↓ to ½ size

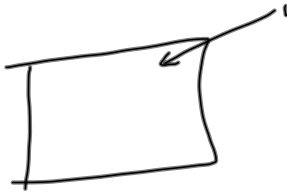
P ↑ double

½ l of particles
½ l of space
} 1 L

to double P
empty space = ½ = .75 L total

Foos' Law

n P



$$\frac{\sqrt{rms_1}}{\sqrt{rms_2}} = \frac{rate_1}{rate_2} = \frac{\left(\frac{d_2}{t_2}\right)}{\left(\frac{d_1}{t_1}\right)} = \frac{d_2}{t_2} \cdot \frac{t_1}{d_1}$$