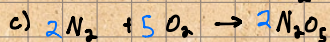
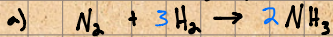


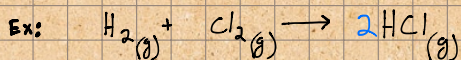
Warm-up:

1) Balance the following equations:



2) What specifically do the coefficients in a chemical reaction represent?

• **Coefficients:** represent the reaction ratios in a chemical equation



Equation Stands For...

- 1 mole of  $H_2$  reacts with 1 mole of  $Cl_2$  to produce 2 moles of Hydrogen chloride

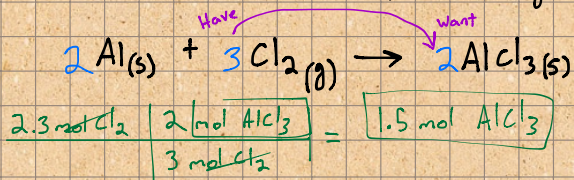
- 1 molecule of  $H_2$  reacts with 1 molecule of  $Cl_2$  to produce 2 molecule of Hydrogen chloride

- 1 Liter of  $H_2$  reacts with 1 Liter of  $Cl_2$  to produce 2 Liter of Hydrogen chloride

• **Stoichiometry:** quantitative information regarding reactants & products in a reaction

↳ deals with ratios in a chemical rxn [coefficients?]

Ex: Find the # of moles of aluminum chloride produced when 2.3 moles of chlorine are consumed in the following:



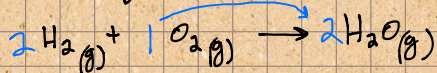
Step 1: Balance Eq

Step 2: Mole Bridge to find conversion [have → want]

Step 3: Dimensional Analysis

Step 4: Logic check [Does it make sense?]

Ex 2: How many moles of Water from 4.5 moles of  $O_2$ ?



$4.5 \text{ mol } O_2 \left| \frac{2 \text{ mol } H_2O}{1 \text{ mol } O_2} \right. = 9.0 \text{ mol } H_2O$