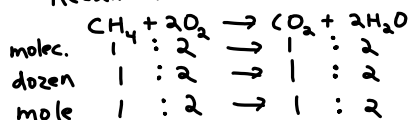


Stoichiometry - Mole

Recall- Molecule Stoichiometry



example-

How many moles of water are produced when 3.6 mol CH₄ react?

$$3.6 \text{ mol CH}_4 \times \frac{2 \text{ mol H}_2\text{O}}{1 \text{ mol CH}_4} = 7.2 \text{ moles H}_2\text{O}$$

Example-

How many moles of CH₄ react with 0.53 mol O₂?

$$0.53 \text{ mol O}_2 \times \frac{1 \text{ mol CH}_4}{2 \text{ mol O}_2} = 0.265 \text{ mol CH}_4$$


from equation

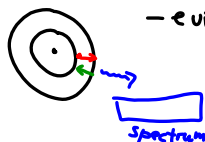
Questions- p.115 #4-6

Unit 1 - Atomic Structure

1. Models of the atom.
2. Quantum Mechanical atom
3. Electron configuration (arrangement)
4. Valence Electrons
5. Evidence for these models.
 - atomic size
 - ionization energy

Models of the Atom

1. Greek - philosophy → Atomos (uncut)
2. Dalton / Thomson 
3. Rutherford - Gold Foil experiment
 - nucleus (+ charge + mass)
 - most of the atom is empty space
4. Bohr - H atom
 - electrons orbit nucleus
 - evidence: coloured lines of light



Quantum Mechanical Model

De Broglie - particles/waves

small mass → little mass
predict

- electrons only have certain amounts of energy.
- Heisenberg - you cannot know the position and momentum of an electron.
- Orbitals - high probability of finding electron.