Stoichiometry Walk-Through

|  |  |
| --- | --- |
| *Some examples using the mole highway* | |
| **N2 + 3H2 🡪 2NH3 *You start with 25.00g of N2 - How much H2 do you need?*** | |
| **Grams A 🡪 Moles A**  *Use molar  mass A* | 25.00g N2 1 mol N2   28.01 g N2  = 0.8925mol N2 |
| **Moles A 🡪 Moles B**  *Use mole  ratio B/A* | 0.8925mol N2 3 mol H2   1 mol N2  = 2.678 mol H2 |
| **Grams A 🡪 Moles B**  *Use molar mass A, then mole ratio B/A* | 25.00g N2 1 mol N2 3 mol H2   28.01 g N2 1 mol N2  = 2.678 mol H2 |
| **Grams A 🡪 Grams B**  *Use molar mass A, then mole ratio B/A, then molar mass B* | 25.00g N2 1mol N2 3mol H2 2.02g H2  28.01g N2 1mol N2 1mol H2  = 5.409 mol H2 |
| **Grams A 🡪 Molecules B**  *Use molar mass A, then mole ratio B/A, then Avogadro’s # B* | 6.02x1023 25.00g N2 1mol N2 3mol H2 molec. H2  28.01g N2 1mol N2 1mol H2  = 1.612 x 1024 molecules H2 |

*These are not all the combinations of routes on the mole highway, just some examples of possible routes*