**BLM 1-37 Multiple Ion Charges**

\*REMEMBER: You only write write Roman Numerals for **Multivalent METALS only!**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Elements to Combine** | **Ion Symbols (show charges)** | **Formula** | **Name** | **Number of Atoms** |
| iron(II) andbromine |  |  |  |  |
| iron(III) andbromine |  |  |  |  |
| copper(I) andnitrogen |  |  |  |  |
| gold(III) andchlorine |  |  |  |  |
| lead(IV) andphosphorus |  |  |  |  |
| lead(II) andsulphur |  |  |  |  |
| nickel(III) andbromine |  |  |  |  |
| manganese(IV) and sulphur |  |  |  |  |
| uranium(VI) and iodine |  |  |  |  |
| rhenium(VII) and fluorine |  |  |  |  |
| titanium(III) and nitrogen |  |  |  |  |
| cobalt(II) and oxygen |  |  |  |  |
| copper(II) andselenium |  |  |  |  |
| gold(I) andsulphur |  |  |  |  |
| tin(IV) andiodine |  |  |  |  |
| vanadium(V) and phosphorus |  |  |  |  |

**ANSWER KEY**

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| --- | --- | --- | --- | --- |
| **Elements to Combine** | **Ion Symbols (show charges)** | **Formula** | **Name** | **Number of Atoms** |
| iron(II) bromide | Fe2+ Br− | FeBr2 | iron(II) bromide | 3 |
| iron(III) bromide | Fe3+ Br− | FeBr3 | iron(III) bromide | 4 |
| copper(I) nitride | Cu+ N3− | Cu3N | copper(I) nitride | 4 |
| gold(III) chloride | Au3+ Cl− | AuCl3 | gold(III) chloride | 4 |
| lead(IV) phosphide | Pb4+ P3− | Pb3P4 | lead(IV) phosphide | 7 |
| lead(II) sulphide | Pb2+ S2− | PbS | lead(II) sulphide | 2 |
| nickel(III) bromide | Ni3+ Br− | NiBr3 | nickel(III) bromide | 4 |
| manganese(IV) sulphide | Mn4+ S2− | MnS2 | manganese(IV) sulphide | 3 |
| uranium(VI)  iodide | U6+ I− | UI6 | uranium(VI) iodide | 7 |
| rhenium(VII) fluoride | Re7+ F− | ReF7 | rhenium(VII) fluoride | 8 |
| titanium(III) nitride | Ti3+ N3− | TiN | titanium(III) nitride | 2 |
| cobalt(II) oxide | Co2+ O2− | CoO | cobalt(II) oxide | 2 |
| copper(II) selenide | Cu2+ Se2− | CuSe | copper(II) selenide | 2 |
| gold(I) sulphide | Au+ S2− | Au2S | gold(I) sulphide | 3 |
| tin(IV) iodide | Sn4+ I− | SnI4 | tin(IV) iodide | 5 |
| vanadium(V) phosphide | V5+ P3− | V3P5 | vanadium(V) phosphide | 8 |