

## FORMULA WRITING

NAME: \_\_\_\_\_

Writing Formulas for Binary Ionic Compounds – Use periodic table or roman numerals to determine charge

- |                       |       |                         |       |
|-----------------------|-------|-------------------------|-------|
| 1. Sodium nitride     | _____ | 7. Copper (II) chloride | _____ |
| 2. Calcium fluoride   | _____ | 8. Lithium bromide      | _____ |
| 3. Iron (III) oxide   | _____ | 9. Tin (IV) sulfide     | _____ |
| 4. Aluminum sulfide   | _____ | 10. Strontium phosphide | _____ |
| 5. Magnesium selenide | _____ |                         |       |
| 6. Potassium oxide    | _____ |                         |       |

Writing formulas for Ionic Compounds with Polyatomic Ions – use periodic table or roman numerals for cation (except ammonium ion!) and look up polyatomic anion's formula and charge.

- |                        |       |                        |       |
|------------------------|-------|------------------------|-------|
| 1. Sodium sulfate      | _____ | 7. Sodium bicarbonate  | _____ |
| 2. Calcium acetate     | _____ | 8. Barium hydroxide    | _____ |
| 3. Ammonium sulfide    | _____ | 9. Aluminum nitrate    | _____ |
| 4. Iron (III) chlorate | _____ | 10. Ammonium phosphate | _____ |
| 5. Ammonium carbonate  | _____ |                        |       |
| 6. Tin (II) phosphate  | _____ |                        |       |

Writing formulas for Covalent Substances (use prefixes not charges)

- |                         |       |                         |       |
|-------------------------|-------|-------------------------|-------|
| 1. Nitrogen trifluoride | _____ | 4. Carbon tetrachloride | _____ |
| 2. Dinitrogen dioxide   | _____ |                         |       |
| 3. Sulfur dioxide       | _____ |                         |       |

Naming Compounds – use roman numerals if needed to indicate charge. Use prefixes for covalent substances.

- |                                 |       |
|---------------------------------|-------|
| 1. $\text{MgCl}_2$              | _____ |
| 2. $\text{Ca}(\text{NO}_3)_2$   | _____ |
| 3. $\text{Fe}_2(\text{CO}_3)_3$ | _____ |
| 4. $(\text{NH}_4)_2\text{O}$    | _____ |
| 5. $\text{SO}_3$                | _____ |
| 6. $\text{NF}_3$                | _____ |
| 7. $\text{Fe}(\text{OH})_2$     | _____ |
| 8. $\text{NH}_4\text{ClO}_3$    | _____ |
| 9. $\text{NH}_4\text{HCO}_3$    | _____ |
| 10. $\text{Li}_3\text{PO}_4$    | _____ |

Write formulas for the following compounds:

- a. Barium chloride \_\_\_\_\_
- b. Calcium oxide \_\_\_\_\_
- c. Magnesium sulfate \_\_\_\_\_
- d. Silver bromide \_\_\_\_\_
- e. Zinc carbonate \_\_\_\_\_
- f. Ammonium nitrate \_\_\_\_\_
- g. Aluminum sulfide \_\_\_\_\_
- h. Copper (II) hydroxide \_\_\_\_\_
- i. Lead (II) phosphate \_\_\_\_\_
- j. Iron (III) sulfate \_\_\_\_\_
- k. Chromium (III) fluoride \_\_\_\_\_
- l. Nickel (II) chlorate \_\_\_\_\_
- m. Potassium hydroxide \_\_\_\_\_
- n. Radium chromate \_\_\_\_\_
- o. Mercury (II) iodide \_\_\_\_\_
- p. Sodium bisulfate \_\_\_\_\_
- q. Lead (IV) acetate \_\_\_\_\_
- r. Sodium bisulfate \_\_\_\_\_
- s. Mercury (II) nitrate \_\_\_\_\_
- t. Antimony trichloride \_\_\_\_\_
- u. Manganese (III) sulfide \_\_\_\_\_
- v. Molybdenum (III) oxide \_\_\_\_\_
- w. Tin (IV) chloride \_\_\_\_\_
- x. Rubidium fluoride \_\_\_\_\_
- y. Sulfur trioxide \_\_\_\_\_
- z. Aluminum acetate \_\_\_\_\_

Write names for the following formulas

- a.  $\text{Na}_2\text{CO}_3$  \_\_\_\_\_
- b.  $\text{K}_2\text{O}$  \_\_\_\_\_
- c.  $\text{HgCl}_2$  \_\_\_\_\_
- d.  $\text{Fe}(\text{OH})_3$  \_\_\_\_\_
- e.  $\text{Ni}(\text{C}_2\text{H}_3\text{O}_2)_2$  \_\_\_\_\_
- f.  $\text{CuCl}_2$  \_\_\_\_\_
- g.  $\text{Na}_3\text{AsO}_4$  \_\_\_\_\_
- h.  $\text{CaS}$  \_\_\_\_\_
- i.  $\text{K}_2\text{SO}_4$  \_\_\_\_\_
- j.  $\text{NaNO}_3$  \_\_\_\_\_
- k.  $\text{NH}_4\text{NO}_3$  \_\_\_\_\_
- l.  $\text{Ag}_2\text{CO}_3$  \_\_\_\_\_
- m.  $\text{AuCl}$  \_\_\_\_\_
- n.  $\text{CsCl}$  \_\_\_\_\_
- o.  $\text{KCN}$  \_\_\_\_\_
- p.  $\text{LiMnO}_4$  \_\_\_\_\_
- q.  $\text{Co}_3(\text{PO}_4)_2$  \_\_\_\_\_
- r.  $\text{MnO}$  \_\_\_\_\_
- s.  $\text{Ag}_2\text{SO}_4$  \_\_\_\_\_
- t.  $\text{NaHCO}_3$  \_\_\_\_\_
- u.  $(\text{NH}_4)_2\text{S}$  \_\_\_\_\_
- v.  $\text{N}_2\text{O}_5$  \_\_\_\_\_
- w.  $\text{N}_2\text{O}_3$  \_\_\_\_\_
- x.  $\text{Mg}(\text{HSO}_3)_2$  \_\_\_\_\_
- y.  $\text{BaCrO}_4$  \_\_\_\_\_
- z.  $\text{P}_2\text{O}_3$  \_\_\_\_\_

## FORMULA WRITING

NAME: \_\_\_\_\_

Writing Formulas for Binary Ionic Compounds Use periodic table or roman numerals to determine charge

- |                       |   |                         |   |
|-----------------------|---|-------------------------|---|
| 1. Sodium nitride     | <u><math>\text{Na}_3\text{N}</math></u>   | 6. Potassium oxide      | <u><math>\text{K}_2\text{O}</math></u>    |
| 2. Calcium fluoride   | <u><math>\text{CaF}_2</math></u>          | 7. Copper (II) chloride | <u><math>\text{CuCl}_2</math></u>         |
| 3. Iron (III) oxide   | <u><math>\text{Fe}_2\text{O}_3</math></u> | 8. Lithium bromide      | <u><math>\text{LiBr}</math></u>           |
| 4. Aluminum sulfide   | <u><math>\text{Al}_2\text{S}_3</math></u> | 9. Tin (IV) sulfide     | <u><math>\text{SnS}_2</math></u>          |
| 5. Magnesium selenide | <u><math>\text{MgSe}</math></u>           | 10. Strontium phosphide | <u><math>\text{Sr}_3\text{P}_2</math></u> |

Writing formulas for Ionic Compounds with Polyatomic Ions – use periodic table or roman numerals for cation (except ammonium ion!) and look up polyatomic anion's formula and charge.

- |                        |   |                        |  |
|------------------------|---|------------------------|--|
| 1. Sodium sulfate      | <u><math>\text{Na}_2\text{SO}_4</math></u>                      | 6. Tin (II) phosphate  | <u><math>\text{Sn}_3(\text{PO}_4)_2</math></u> |
| 2. Calcium acetate     | <u><math>\text{Ca}(\text{C}_2\text{H}_3\text{O}_2)_2</math></u> | 7. Sodium bicarbonate  | <u><math>\text{NaHCO}_3</math></u>             |
| 3. Ammonium sulfide    | <u><math>(\text{NH}_4)_2\text{S}</math></u>                     | 8. Barium hydroxide    | <u><math>\text{Ba}(\text{OH})_2</math></u>     |
| 4. Iron (III) chlorate | <u><math>\text{Fe}(\text{ClO}_3)_3</math></u>                   | 9. Aluminum nitrate    | <u><math>\text{Al}(\text{NO}_3)_3</math></u>   |
| 5. Ammonium carbonate  | <u><math>(\text{NH}_4)_2\text{CO}_3</math></u>                  | 10. Ammonium phosphate | <u><math>(\text{NH}_4)_3\text{PO}_4</math></u> |

Writing formulas for Covalent Substances (use prefixes not charges)

- |                         |  |                         |                                  |
|-------------------------|--|-------------------------|----------------------------------|
| 1. Nitrogen trifluoride | <u><math>\text{NF}_3</math></u>          | 3. Sulfur dioxide       | <u><math>\text{SO}_2</math></u>  |
| 2. Dinitrogen dioxide   | <u><math>\text{N}_2\text{O}_2</math></u> | 4. Carbon tetrachloride | <u><math>\text{CCl}_4</math></u> |

Naming Compounds – use roman numerals if needed to indicate charge. Use prefixes for covalent substances.

- |                                 |                             |
|---------------------------------|-----------------------------|
| 1. $\text{MgCl}_2$              | <u>MAGNESIUM CHLORIDE</u>   |
| 2. $\text{Ca}(\text{NO}_3)_2$   | <u>CALCIUM NITRATE</u>      |
| → 3. $\text{Fe}(\text{CO}_3)_3$ | <u>IRON (III) CARBONATE</u> |
| 4. $(\text{NH}_4)_2\text{O}$    | <u>AMMONIUM OXIDE</u>       |
| 5. $\text{SO}_3$                | <u>SULFUR TRIOXIDE</u>      |
| 6. $\text{NF}_3$                | <u>NITROGEN TRIFLUORIDE</u> |
| 7. $\text{Fe}(\text{OH})_2$     | <u>IRON (II) HYDROXIDE</u>  |
| 8. $\text{NH}_4\text{ClO}_3$    | <u>AMMONIUM PERCHLORATE</u> |
| 9. $\text{NH}_4\text{HCO}_3$    | <u>AMMONIUM BICARBONATE</u> |
| 10. $\text{Li}_3\text{PO}_4$    | <u>LITHIUM PHOSPHATE</u>    |

Write formulas for the following compounds:

- Barium chloride  $\text{BaCl}_2$
- Calcium oxide  $\text{CaO}$
- Magnesium sulfate  $\text{MgSO}_4$
- Silver bromide  $\text{AgBr}$
- Zinc carbonate  $\text{ZnCO}_3$
- Ammonium nitrate  $\text{NH}_4\text{NO}_3$
- Aluminum sulfide  $\text{Al}_2\text{S}_3$
- Copper (II) hydroxide  $\text{Cu}(\text{OH})_2$
- Lead (II) phosphate  $\text{Pb}_3(\text{PO}_4)_2$
- Iron (III) sulfate  $\text{Fe}_2(\text{SO}_4)_3$
- Chromium (III) fluoride  $\text{CrF}_3$
- Nickel (II) chlorate  $\text{Ni}(\text{ClO}_3)_2$
- Potassium hydroxide  $\text{KOH}$
- Radium chromate  $\text{RaCrO}_4$
- Mercury (II) iodide  $\text{HgI}_2$
- Sodium bisulfate  $\text{NaHSO}_4$
- Lead (IV) acetate  $\text{Pb}(\text{C}_2\text{H}_3\text{O}_2)_4$
- Sodium bisulfate  $\text{NaHSO}_4$
- Mercury (II) nitrate  $\text{Hg}(\text{NO}_3)_2$
- Antimony trichloride  $\text{SbCl}_3$
- Manganese (III) sulfide  $\text{Mn}_2\text{S}_3$
- Molybdenum (III) oxide  $\text{Mo}_2\text{O}_3$
- Tin (IV) chloride  $\text{SnCl}_4$
- Rubidium fluoride  $\text{RbF}$
- Sulfur trioxide  $\text{SO}_3$
- Aluminum acetate  $\text{Al}(\text{C}_2\text{H}_3\text{O}_2)_3$

Write names for the following formulas

- $\text{Na}_2\text{CO}_3$  SODIUM CARBONATE
- $\text{K}_2\text{O}$  POTASSIUM OXIDE
- $\text{HgCl}_2$  MERCURY (II) CHLORIDE
- $\text{Fe}(\text{OH})_3$  IRON (III) HYDROXIDE
- $\text{Ni}(\text{C}_2\text{H}_3\text{O}_2)_2$  NICKEL (II) ACETATE
- $\text{CuCl}_2$  COPPER (II) CHLORIDE
- $\text{Na}_3\text{AsO}_4$  SODIUM ARSENATE
- $\text{CaS}$  CALCIUM SULFIDE
- $\text{K}_2\text{SO}_4$  POTASSIUM SULFATE
- $\text{NaNO}_3$  SODIUM NITRATE
- $\text{NH}_4\text{NO}_3$  AMMONIUM NITRATE
- $\text{Ag}_2\text{CO}_3$  SILVER CARBONATE
- $\text{AuCl}$  GOLD (I) CHLORIDE
- $\text{CsCl}$  CESIUM CHLORIDE
- $\text{KCN}$  POTASSIUM CYANIDE
- $\text{LiMnO}_4$  LITHIUM PERMANGANATE
- $\text{Co}_3(\text{PO}_4)_2$  COBALT (II) PHOSPHATE
- $\text{MnO}$  MANGANESE (II) OXIDE
- $\text{Ag}_2\text{SO}_4$  SILVER SULFATE
- $\text{NaHCO}_3$  SODIUM BICARBONATE
- $(\text{NH}_4)_2\text{S}$  AMMONIUM SULFIDE
- $\text{N}_2\text{O}_5$  DINITROGEN PENTOXIDE
- $\text{N}_2\text{O}_3$  DINITROGEN TRIOXIDE
- $\text{Mg}(\text{HSO}_3)_2$  MAGNESIUM BISULFITE
- $\text{BaCrO}_4$  BARIUM CHROMATE
- $\text{P}_2\text{O}_3$  DIPHOSPHORUS TRIOXIDE