

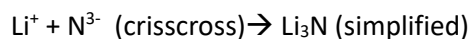
Name: _____

Ionic Compounds Formula Practice

Steps for writing the formulas of Ionic Compounds

1. Chemical compounds must have a **net charge of zero** (Both + ions and – ions must be present and their charges will cancel each other)
2. Find the charge of the cation and the anion
 - a. The first part of the name is the cation, the second part of the name is the anion
 - b. The roman numerals give you the charge of transition metals
3. Crisscross the charge **without** the sign:
 - a. Cation_{charge of anion} Anion_{charge of cation} (if the charge is 1 do not write the charge)
 - b. If you have more than 1 of a poly atomic ion, you must use parentheses around the PAI
4. Simplify subscripts

Example: Lithium nitride is made up of Lithium and Nitrogen



Charge: +1 3- 0

Vocabulary and Concepts

1. What is a chemical bond?
2. Why do atoms form bonds?
3. How are types of bonds determined?
4. What type of bond involves a “sea of electrons”? _____
5. What is the octet rule?
6. Metals form (cation/anion) by (gaining/losing) electrons.
7. Non-metals form (cation/anion) by (gaining/losing) electrons.
8. What is the difference between a monatomic ion and a polyatomic ion?
9. List the charges of the following elements: Ag _____, Zn _____, Cd _____
10. Explain how an ionic bond is formed.
11. Ionic bonding are held together by an _____ of _____.
12. What is the 3D structure called that ionic compounds form? _____
13. What is the overall charge of an ionic compound? _____
14. List 5 properties of ionic compounds:
 - a.
 - b.
 - c.
 - d.
 - e.
15. What is the difference between type 1 and type 2 ionic compounds?
16. What does the Roman numeral represent in the name of an ionic compound?
17. What is the difference between binary and ternary ionic compounds?

Formulas: Write the formula for each of the given elements

1. Cobalt (II) and oxygen _____
2. Calcium and bromine _____
3. Aluminum and sulfur _____
4. Copper (II) and nitrogen _____
5. Lithium and phosphorus _____
6. Lead (II) and chlorate _____
7. Strontium and acetate _____
8. Sodium and carbonate _____
9. Lead (IV) and dichromate _____
10. Potassium and nitrate _____
11. Aluminum and chromate _____
12. Mercury (I) and cyanide _____
13. Lithium and chlorite _____
14. Silver and sulfate _____
15. Cesium and sulfite _____
16. Potassium and fluorine _____
17. Ammonium and sulfate _____
18. Magnesium and iodine _____
19. Copper (II) and sulfite _____
20. Aluminum and phosphate _____
21. Lead (II) and nitrite _____
22. Calcium and cyanide _____
23. Copper (II) and hydroxide _____
24. Iron (II) and oxygen _____
25. Sodium and sulfur _____
26. Copper (I) and iodine _____
27. Lithium and carbonate _____
28. Cobalt (III) and bromine _____
29. Mercury (I) and oxygen _____
30. Magnesium and phosphate _____
31. Lead (II) and iodine _____
32. Barium and permanganate _____
33. Ammonium and dichromate _____
34. Lead (IV) and sulfur _____
35. Sodium and fluorine _____
36. Sodium and dichromate _____
37. Cobalt (III) and sulfite _____
38. Lithium and nitrogen _____
39. Aluminum and phosphorus _____
40. Calcium and chlorine _____