Chemistry: Chapter 13 worksheet- Writing & Naming Ionic Compounds

Name: Answer key

A. Define the following terms

1. Oxidation state - charge of a stable ion
2. Cation - positive ion; formed by losing e⁻
3. Anion - negative ion; formed by gaining e⁻
4. Ionic Bond - electrostatic attraction between oppositely charged ions
5. Electronegativity - pull on bonded electrons

B. Identify the oxidative state of the following atoms/ions in their stable state (write the symbol and charge for each)

6. Magnesium $Mg^{2+}$
7. Gallium $Ga^{3+}$
8. Sulfur $S^{2-}$
9. Bromine $Br^{1-}$
10. Argon $Ar^{0}$
11. Iron (III) $Fe^{3+}$
12. Cupric $Cu^{2+}$
13. Aurous $Au^{1+}$
14. Nitrogen $N^{3-}$
15. Potassium $K^{1+}$

Write the correct formula and name the compounds for the following sets of atoms/ions

16. Lithium and Bromine

$LiBr$

lithium bromide

17. Sodium and Oxygen

$Na_2O$

Sodium oxide

18. Chlorine and Calcium

$CaCl_2$

Calcium chloride

19. Iron (III) and Fluorine

$FeF_3$

iron(III) fluoride

ferric fluoride

20. Cuprous and hydroxide

$CuOH$

copper(I) hydroxide

Cuprous hydroxide

21. Sulfate and Magnesium

$MgSO_4$

magnesium sulfate

22. Strontium and Nitrite

$Sr(NO_2)_2$

Strontium nitrite

23. Zinc and Perchlorate

$Zn(ClO_4)_2$

zinc perchlorate

24. Iodine and Lead (IV)

$PbI_4$

lead (IV) iodide

plumbic iodide

25. Ammonium and Oxygen

$(NH_4)_2O$

ammonium oxide

26. Aluminum and Sulfur

$Al_2S_3$

aluminum sulfide

27. Barium and Carbonate

$BaCO_3$

barium carbonate

28. Nitrate and Ammonium

$NH_4NO_3$

ammonium nitrate

29. Cobalt(III) and Iodine

$CoI_3$

cobalt (III) iodide

Cobaltic iodide

30. Sulfite and Gallium

$Ga_2(SO_3)_3$

gallium sulfite