#2

Score:

Name: Key

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Formula Assignment #2
Compound Names and Formulas
Elements with TWO OR MORE ION CHARGES

A. Write the correct formula for the following compounds, all of which have been named using the modern Roman Numeral Method. The ION CHARGE is given after the first element (metallic) in Roman Numerals.

1. copper (II) oxide CuO (2+ 2−)
2. mercury (I) oxide Mg_2O
3. gold (III) chloride $AuCl_3$
4. thallium (III) bromide $TlBr_3$
5. bismuth (V) oxide Bi_2O_5
6. terbium (III) oxide Tb_2O_3
7. uranium (VI) oxide UO_3
8. protactinium (III) bromide $PaBr_3$
9. cerium (III) oxide Ce_2O_3
10. arsenic (V) sulphide As_2S_5
11. manganese (III) oxide Mn_2O_3
12. vanadium (II) bromide VBr_2
13. niobium(V) oxide Nb_2O_5
14. titanium (III) oxide Ti_2O_3
15. titanium (III) nitride TiN
16. iron (II) oxide FeO
17. cobalt (II) phosphide Co_3P_2
18. tin (II) oxide SnO
19. thulium (II) bromide $TmBr_2$
20. copper (II) bromide $CuBr_2$

B. Determine the ion charge of the first element by using the reverse cross rule. Name the compound using the Roman Numeral Method.

1. $SnCl_4$ (4+ 1−) tin IV chloride
2. $BiBr_5$ Bismuth (V) bromide
3. PoO_2 Polonium (IV) oxide
4. PbI_2 Lead (II) iodide
5. HgO Mercury (II) oxide
6. $HgCl$ Mercury (I) chloride
7. Au_2O_3 Gold (III) oxide
8. $FeCl_2$ Iron (II) chloride
9. PdF_4 Palladium (IV) fluoride
10. Os_2O_3 Osmium (III) oxide
11. $MoBr_2$ Molybdenum (II) bromide
12. VCl_5 Vanadium (V) chloride
13. Mn_2O_3 Manganese (III) oxide
14. CoO Cobalt (II) oxide
15. Np_2O_3 Neptunium (III) oxide
16. V_2O_5 Vanadium (V) oxide

Name Date

Comprehension
Section 3.2

Use with textbook pages 84–92.

Compounds with a multivalent metal

You can use the periodic table on page 202 to help you answer these questions.

1. Write the formulas for the compounds formed from the following ions. Then name the compounds.

	Ions	Formula	Compound name
(a)	Mn^{3+} O^{2-}	Mn_2O_3	Manganese (III) oxide
(b)	Pb^{3+} Br^-	$PbBr_3$	lead (III) bromide
(c)	Pt^{2+} Cl^-	$PtCl_2$	Platinum (II) chloride
(d)	Au^{3+} S^{2-}	Au_2S_3	Gold (III) sulphide
(e)	Pb^{4+} O^{2-}	PbO_2	Lead (IV) oxide
(f)	Sb^{3+} S^{2-}	Sb_2S_3	Antimony (III) sulphide
(g)	Fe^{2+} S^{2-}	FeS	Iron (II) sulphide
(h)	Co^{3+} O^{2-}	Co_2O_3	Cobalt (III) oxide

2. Write the names of the following ionic compounds using Roman numerals.

(a) FeF_3 Iron (III) fluoride

(b) $CuCl_2$ Copper (II) chloride

(c) SnO_2 Tin (IV) oxide

(d) PtS_2 Platinum (IV) sulphide

(e) $CoBr_2$ Cobalt (II) bromide

(f) Au_2O Gold (I) oxide

(g) CrP Chromium (III) phosphide

(h) PbI_2 Lead (II) iodide

3. Write the chemical formulas for the following compounds.

(a) iron(III) chloride $FeCl_3$

(b) copper(I) oxide Cu_2O

(c) tin(IV) sulphide SnS_2

(d) bismuth(V) chloride $BiCl_5$

(e) gold(I) oxide Au_2O

(f) chromium(II) fluoride CrF_2

(g) manganese(II) iodide MnI_2

(h) iron(III) selenide Fe_2Se_3