Check Homework - #1-6

NaF

$Na^+ \ F^-$

CaF_2

$Ca^{2+} \ F^- \ F^-$

5. c) magnesium oxide

$Mg^{2+} \ O^{2-}$

MgO

d) aluminum sulfide

$Al^{3+} \ S^{2-}$

$Al^{3+} \ S^{2-}$

S^{2-}

Al_2S_3

6. b) Na_3P

$Na^+ \ P^{3-}$

Na^+

Na^+

Sodium phosphide

c) CaF_2

$Ca^{2+} \ F^-$

F^-

Calcium fluoride

Multivalent Metals

- some metals have more than one charge
  they are called multi-valent ions
- these elements are found in the middle block of the periodic table
- the charge that is to be used is indicated in brackets with a Roman numeral (Table 2 p. 195)
  Ex. iron(III) oxide

Fe^{3+} O^{2-}
Fe^{3+} O^{2-}
O^{2-}

Fe_2O_3

Naming Ionic Compounds from Formula (multivalent ions):

- Identify positive ion (metal) and negative ion (nonmetal)
- If metal is multivalent, determine its charge from the formula (balance total positives and negatives) and include in name

Ex. CuCl

Cu^+ Cl^- copper (I) chloride

Ex. Fe_3N_2

Fe^{2+} Fe^{2+} Fe^{2+} N^{3-} N^{3-} iron (II) nitride

Write the chemical formula of the following ionic compounds:

(a) iron (II) oxide

Fe^{2+} O^{2-} $\boxed{FeO}$

(b) lead (IV) chloride

Pb^{4+} Cl^- Cl^- Cl^- Cl^- $\boxed{PbCl_4}$

Write the name of the following ionic compounds:

(a) PbO_2

Pb^{4+} O^{2-} O^{2-}

lead (IV) oxide

(b) Cu_3P

Cu^+ Cu^+ Cu^+ P^{3-}

copper (I) phosphide

Homework

p.195 #7-10

Ionic Compounds Sheet #1