

variable binary ionic cpds (Homework)

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1.

Write the name of each of the following ionic substances, using the system that includes a Roman numeral to specify the charge of the cation.

- (a) SnBr₂
- (b) SnI₄
- (c) CrO
- (d) Cr₂O₃
- (e) Hg₂I₂
- (f) HgI₂

2.

Chromium, a transition metal, forms both the Cr²⁺ and Cr³⁺ ions. Select the formulas for the ionic compounds formed when each of these ions react with the following elements. (Select all that apply.)

- (a) fluorine
- (b) oxygen

3.

Cobalt, a transition metal, forms both the Co²⁺ and Co³⁺ ions. Which of the following are the correct formulas and names for the oxides formed by the two different ions?

4.

Using the periodic table to guide you, predict the formula and name of the compound formed by the following elements. (Type your answer using the format CO₂ for CO₂.)

- (a) Na and Br

formula

name

- (b) Na and Cl

formula

name

- (c) Ga and F

formula

name

- (d) Cs and Br

formula

name

5.

The most common charge associated with silver in its compounds is 1+. Indicate the empirical formulas you would expect for compounds formed between Ag and each of the following. (Type your answer using the format CO₂ for CO₂.)

(a) phosphorus

(b) arsenic

(c) selenium

6.

Fill in the gaps in the following table. (Enter the symbol with the first (raised) number in the first box and the element, with charge if necessary, in the second box. Type your answer using the format [O]2- for O²⁻ or [F]- for F⁻.)

Symbol	²⁰⁷ Pb ²⁺	¹³³ Cs ⁺			
Protons			9		47
Neutrons			10	27	60
Electrons			10	18	
Net charge				4+	1+