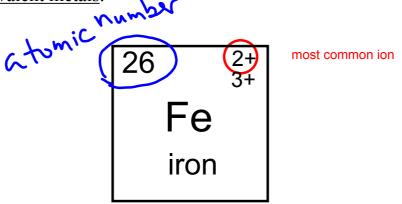
Multivalent Metals and Their Ions

Transition elements are located in the middle of the periodic table. Many of them have more than one ionic charge. These elements are called <u>multivalent metals</u>.



When naming the ions of multivalent metals, you must include a <u>roman numeral</u>. The roman numeral is equal to the charge on the ion.

I II III IV V VI VII VIII IX X
$$1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 4 \quad 9 \quad 10$$

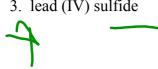
$$Fe^{2+} = \text{iron (II) ion}$$

$$Pb^{4+} = \text{lead (IV) ion}$$

$$Cr^{3+} = \text{chromium (III) ion}$$

Ionic Compounds Involving Multivalent Metals

Write chemical formulas for the following:



$$Pb_{2}^{4+} S_{4}^{2-} > Pb_{2}S_{4}^{2}$$

$$Pb_{5}$$

$$\left(\begin{array}{c} 3+ \\ 0 \end{array}\right) \left(\begin{array}{c} 3+ \\ 0 \end{array}\right) \left(\begin{array}{c} 3+ \\ 3 \end{array}\right) \left(\begin{array}{c} 3+ \\ 3+ \end{array}\right) \left(\begin{array}{c} 3+ \end{array}\right) \left(\begin{array}{c} 3+ \\ 3+ \end{array}\right) \left(\begin{array}{c} 3$$

$$M_{n_2}^{3+} (S04)_3$$