

Exercise 5.2

Writing Electron Configurations and Counting Valence Electrons

1. Write the ground state electron configuration for each of the following neutral atoms. Do not use the noble gas abbreviation.

(a) B (b) Ne

(c) Mg (d) Al

2. Write the ground state electron configuration for each of the following neutral atoms. Use the noble gas abbreviation.

(a) Al (b) Mn

(c) I (d) Eu

3. How many valence electrons does each of the following neutral atoms have?

(a) Al (b) Mn

(c) I (d) Eu

4. Write the ground state electron configuration for each of the following anions. Use the noble gas abbreviation.

(a) H^- (b) F^-

(c) S^{2-} (d) I^-

5. Write the ground state electron configuration for each of the following cations. Use the noble gas abbreviation.

(a) Na^+ (b) Sr^{2+}

(c) Ni^{2+} (d) Cr^{3+}