Exercise 6.1
Reactions of Metals with Nonmetals

1. Identify the ion most commonly formed from each of these metals.

(a) Ba (b) Ca (c) Cs (d) K

(e) Li (f) Mg (g) Na (h) Sr

2. Identify the monoatomic ion most commonly formed from each of these nonmetals.

(a) Br_2 (b) Cl_2 (c) F_2 (d) I_2

(e) N_2 (f) O_2 (g) S_8 (h) Se

3. Identify the ionic compound formed in each of the following reactions.

(a) Li reacts with O_2 (b) Mg reacts with O_2

(c) Li reacts with N_2 (d) Ca reacts with N_2

(e) K reacts with I_2 (f) Ba reacts with Cl_2

(g) Sr reacts with Br_2 (h) Na reacts with S_8

4. Write a balanced chemical equation for each of the following reactions.
Include states of matter. Unless indicated otherwise, the nonmetals are gases.

(a) Li reacts with O_2 (b) Mg reacts with O_2

(c) Li reacts with N_2 (d) Ca reacts with N_2

(e) K reacts with $I_2(s)$ (f) Ba reacts with Cl_2

(g) Sr reacts with $Br_2(l)$ (h) Na reacts with $S_8(s)$