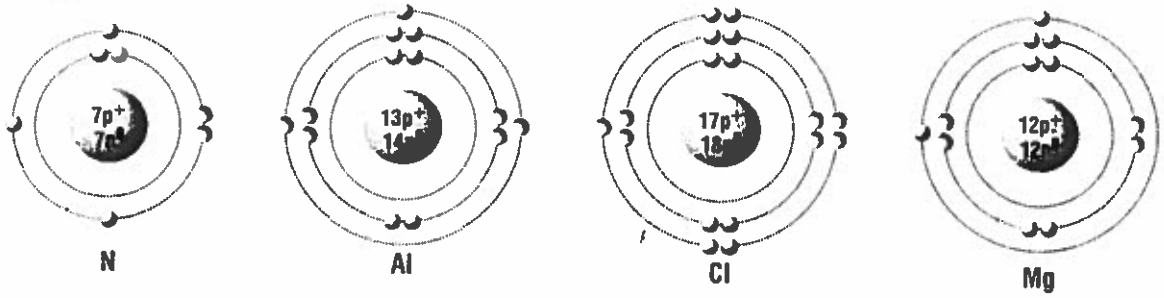
CHECK YOUR LEARNING

Suggested Answers

1. The atomic number lets you predict the number of electrons in an atom.
2. **(a)** Metals are solid at room temperature; non-metals are gas, liquid, or solid.
   (b) Metals are conductive; non-metals are non-conductive.
   (c) Metals are usually shiny; non-metals are dull.
   (d) Metals have 1, 2, or 3 electrons in their outermost orbit; non-metals have 4, 5, 6, or 7.
3. **(a)** fluorine, F
   (b) strontium, Sr
   (c) helium, He
   (d) iodine, I
   (e) potassium, K
   (f) aluminum, Al
   (g) neon, Ne

4.



5. **(a)** This element would belong to the alkali metal family.
   (b) An atom of this element would have one outer electron.
   (c) It would be a soft metal that reacts with fluorine.
6. **(a)** (i) non-metal, (ii) metal, (iii) non-metal, (iv) metal
   (b) It is a metal, but it is a liquid.
   (c) (ii) and (iv) are likely to conduct electricity.
7. **(a)** The number of outermost electrons increases by 1 from left to right within a period.
   (b) The number of outermost electrons within a group stays the same from top to bottom.
8. Atoms have the same number of positive protons as negative electrons, so the two charges cancel out.
9. Potassium reacts violently with water to produce flammable hydrogen gas. This danger causes it to be banned.