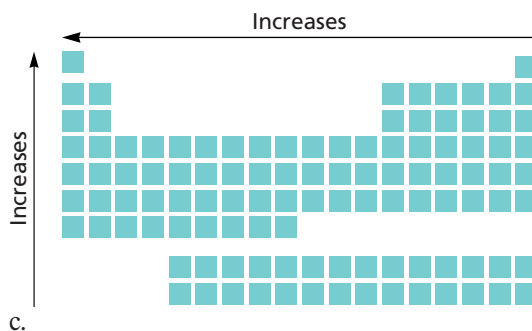
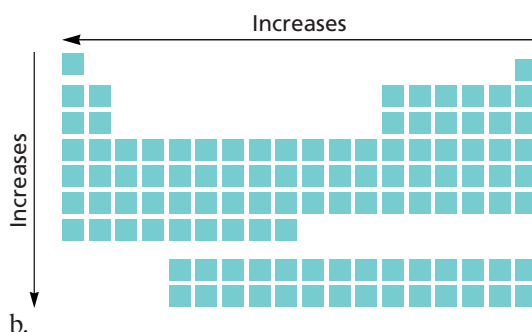
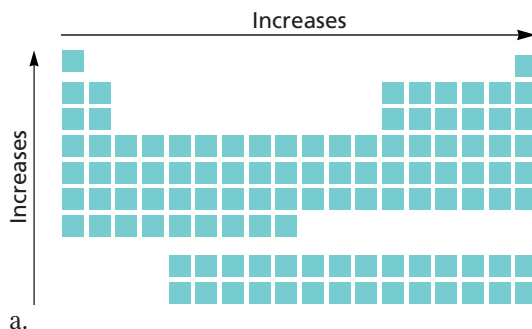


MIXED REVIEW

39. Without looking at the periodic table, identify the period, block, and group in which each of the following elements is located.
- $[\text{Rn}]7s^1$
 - $[\text{Ar}]3d^24s^2$
 - $[\text{Kr}]4d^{10}5s^1$
 - $[\text{Xe}]4f^{14}5d^96s^1$
40. a. Which elements are designated as the noble gases?
b. What is the most significant property of these elements?
41. Which of the following does not have a noble-gas configuration: Na^+ , Rb^+ , O^{2-} , Br^- , Ca^+ , Al^{3+} , S^{2-} ?
42. a. How many groups are in the periodic table?
b. How many periods are in the periodic table?
c. Which two blocks of the periodic table make up the main-group elements?
43. Write the noble-gas notation for the electron configuration of each of the following elements, and indicate the period and group in which each belongs.
- Mg
 - P
 - Sc
 - Y
44. Use the periodic table to describe the chemical properties of the following elements:
- fluorine, F
 - xenon, Xe
 - sodium, Na
 - gold, Au
45. For each element listed below, determine the charge of the ion that is most likely to be formed and the identity of the noble gas whose electron configuration is thus achieved.
- | | | |
|-------|-------|-------|
| a. Li | e. Mg | i. Br |
| b. Rb | f. Al | j. Ba |
| c. O | g. P | |
| d. F | h. S | |
46. Describe some differences between the *s*-block metals and the *d*-block metals.
47. Why do the halogens readily form $1-$ ions?

48. Identify which trends in the diagrams below describe atomic radius, ionization energy, electron affinity, and electronegativity.



49. The electron configuration of argon differs from those of chlorine and potassium by one electron each. Compare the reactivity of these three elements.