

**Given the electron configuration:
 $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^4$**

**#38 To what group does this element belong?
 (A) 4 (B) 14 (C) 16 (D) 6**

#40 Which list of elements contains a metal, a metalloid, a nonmetal, and a noble gas?

- (a) Be, Si, Cl, Kr (b) K, Fe, B, F
 (c) C, N, Ne, Ar (d) Na, Zn, As, Sb

#42 An element with atomic number X is a very reactive metal. What property would an element with atomic number X + 1 have?

- (A) very reactive nonmetal (B) unreactive element
 (C) less reactive metal (D) metalloid with nonmetallic properties

#44 What is the most likely oxidation number of the element located in Group 16, Period 3?

- (A) +6 (B) -6 (C) +2 (D) -2

#46 Which orbital notation correctly represents the highest occupied energy level of a nitrogen atom in the ground state?

- (A) $\frac{\uparrow\downarrow}{2s}$ $\frac{\uparrow}{\quad}$ $\frac{\uparrow}{2p}$ $\frac{\uparrow}{\quad}$ (B) $\frac{\uparrow\downarrow}{2s}$ $\frac{\uparrow\downarrow}{\quad}$ $\frac{\uparrow}{2p}$ $\frac{\quad}{\quad}$
 (C) $\frac{\uparrow\downarrow}{2s}$ $\frac{\uparrow\downarrow}{\quad}$ $\frac{\uparrow}{2p}$ $\frac{\uparrow}{\quad}$ (D) $\frac{\uparrow\downarrow}{2s}$ $\frac{\uparrow\downarrow}{\quad}$ $\frac{\uparrow\downarrow}{2p}$ $\frac{\quad}{\quad}$

#48

Which element is so chemically reactive that it occurs naturally only in compounds?

(A) potassium (B) silver (C) copper (D) sulfur