

30. The first three shells ( $n = 1$  through 3), which can accommodate a total of  $2 + 8 + 18 = 28$  electrons, are completely filled. For selenium ( $Z = 34$ ) there are still  $34 - 28 = 6$  electrons left. Two of them go to the  $4s$  subshell, leaving the remaining four in the highest occupied subshell, the  $4p$  subshell. Similarly, for bromine ( $Z = 35$ ) the highest occupied subshell is also the  $4p$  subshell, which contains five electrons; and for krypton ( $Z = 36$ ) the highest occupied subshell is also the  $4p$  subshell, which now accommodates six electrons.