

## Answers to problems in pages 108 and 109

44.

Isotope	Number of protons	Number of electrons	Number of neutrons
Si-28	14	14	14
Si-29	14	14	15
Si-30	14	14	16

45.  ${}^{12}_6\text{C}$  and  ${}^{13}_6\text{C}$

46.  ${}^{130}_{56}\text{Ba}$  and  ${}^{137}_{56}\text{Ba}$

47.  $1s^2 2s^2 2p^6 3s^2 3p^6 3d^8 4s^2$

48.  $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^2$

49. 6

50. 9

79.  $1s^2 2s^2 2p^6 3s^2 3p^3$

80.  $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^5$