

Page 152 (33-38, 56 & 58; skip 35 & 37)

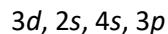
Also: 3, 2, 0, -1/2; 5, 3, 2, -1/2; #15 quantum numbers; #75 quantum numbers

33. How many orbitals are in the $2p$ sublevel?

34. How many sublevels are contained in each of these principal energy levels?

- a. $n = 1$
- b. $n = 2$
- c. $n = 3$
- d. $n = 4$

36. Arrange the following sublevels in order of increasing energy:



38. What is the maximum number of electrons that can go into each of the following sublevels?

- a. $2s$
- b. $4s$
- c. $4p$
- d. $4f$
- e. $3p$
- f. $3d$
- g. $5s$
- h. $5p$

56. Give the symbol for the atom that corresponds to each electron configuration.

- a. $1s^2 2s^2 2p^6 3s^2 3p^6$
- b. $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^6 4d^7 5s^1$
- c. $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^6 4d^{10} 4f^7 5s^2 5p^6 5d^1 6s^2$

58. How many paired electrons are there in an atom of each element?

- a. helium
- b. sodium
- c. boron
- d. oxygen

Name the element being described by this quantum number set:

- a. 3, 2, 0, -1/2
- b. 5, 3, 2, -1/2

Give the quantum number set for the following elements:

- a. #15
- b. #75