

Atomic Orbitals

Use with Chapter 5,
Section 5.2

1. What is the shape of an s orbital?
Spherical
2. What is the relationship between the size of an s orbital and the principal energy level in which it is found?

3. What is the shape of a p orbital? How many p orbitals are there in a sublevel?

4. How many electrons can each orbital hold?
2
5. Look at the diagrams of the p orbitals. What do x, y, and z refer to?

6. How many d orbitals are there in a given sublevel? How many total electrons can the d orbitals in a sublevel hold?
5 10
7. Which d orbitals have the same shape?
 $x^2 - y^2$
8. What point in each diagram represents an atom's nucleus?

9. How likely is it that an electron occupying a p or a d orbital would be found very near an atom's nucleus? What part of the diagram supports your conclusion?

Teaching Transparency 16 Answers

D Keegan



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