

### Section 4.3 How Atoms Differ

*In your textbook, read about atomic number.*

**For each statement below, write *true* or *false*.**

- \_\_\_\_\_ 1. The number of neutrons in an atom is referred to as its atomic number.
- \_\_\_\_\_ 2. The periodic table is arranged by increasing atomic number.
- \_\_\_\_\_ 3. Atomic number is equal to the number of electrons in an atom.
- \_\_\_\_\_ 4. The number of protons in an atom identifies it as an atom of a particular element.
- \_\_\_\_\_ 5. Most atoms have either a positive or a negative charge.

**Answer the following questions.**

6. Lead has an atomic number of 82. How many protons and electrons does lead have?  
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7. Oxygen has 8 electrons. How many protons does oxygen have? \_\_\_\_\_
8. Zinc has 30 protons. What is its atomic number? \_\_\_\_\_
9. Astatine has 85 protons. What is its atomic number? \_\_\_\_\_
10. Rutherfordium has an atomic number of 104. How many protons and electrons does it have?  
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11. Polonium has an atomic number of 84. How many protons and electrons does it have?  
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12. Nobelium has an atomic number of 102. How many protons and electrons does it have?  
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*In your textbook, read about isotopes and mass number.*

**Determine the number of protons, electrons, and neutrons for each isotope described below.**

13. An isotope has atomic number 19 and mass number 39.  
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14. An isotope has 14 electrons and a mass number of 28.  
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15. An isotope has 21 neutrons and a mass number of 40.  
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