

Reviewing Key Terms

Choose the letter of the best answer.

- The atomic number of an atom is determined by the number of
 - protons.
 - electrons.
 - neutrons.
 - isotopes.
- The horizontal rows in the periodic table are called
 - groups.
 - periods.
 - nonmetals.
 - metals.
- Of the following, the group that contains elements that are the most reactive is the
 - alkali metals.
 - alkaline earth metals.
 - carbon family.
 - inert gases.
- Unlike metals, solid nonmetals are
 - good conductors of heat and electric current.
 - malleable.
 - dull and brittle.
 - ductile.
- Unstable atomic nuclei that release fast-moving particles and energy are
 - radioactive.
 - alloys.
 - isotopes.
 - alpha particles.

Complete the following sentences so that your answers clearly explain the key terms.

- Carbon-12 and carbon-13 are examples of **isotopes**, or _____.
- Dmitri Mendeleev constructed the first **periodic table**, which is _____.
- A property of metals is high **thermal conductivity**, which means _____.
- Germanium is an example of a **semimetal**, an element whose properties are _____.
- Uranium and radon share the property of **radioactivity**, which means _____.

Checking Concepts

- What discoveries about the atom did Rutherford make from his team's experiments?
- How do two isotopes of an element differ from one another? How are they similar?
- Use the periodic table to find the atomic number and atomic mass of neon (Ne).
- Use the periodic table to name two elements that have properties similar to those of chlorine (Cl).
- Of the elements oxygen (O), zinc (Zn), and iodine (I), which one is likely to be a poor conductor of electricity and a brittle solid at room temperature?
- What properties of radioactive isotopes make them useful?