

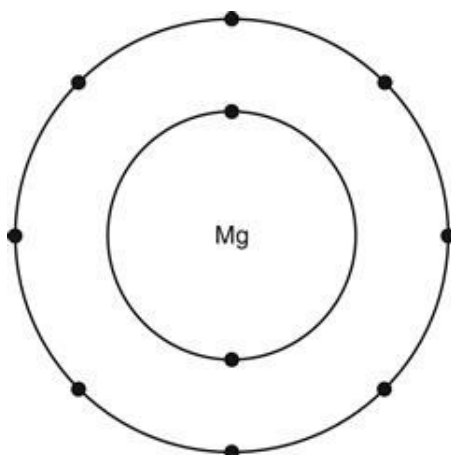
TEST NAME: PSc 3.3 Ions Spring 2018
TEST ID: 2213351
GRADE: 09 - Ninth Grade - 12 - Twelfth Grade
SUBJECT: Life and Physical Sciences
TEST CATEGORY: School Assessment

Student: _____

Class: _____

Date: _____

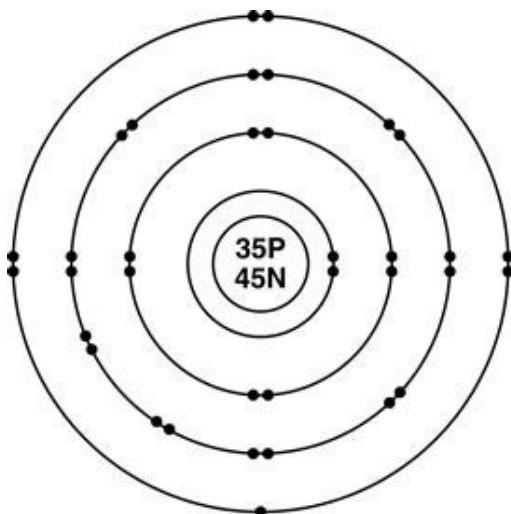
1. A model of a magnesium ion is represented. The rings represent energy levels and the dots represent electrons that reside in those levels.



Which magnesium ion is represented in the model?

- A. Mg 1 -
 - B. Mg 1 +
 - C. Mg 2 +
 - D. Mg 2 -
2. The position of an element on the periodic table helps scientists predict the number of electrons an atom will gain or lose during ion formation. According to the Periodic Table of the Elements, which element is MOST likely to gain two electrons when it forms an ion?
- A. calcium (Ca)
 - B. mercury (Hg)
 - C. oxygen (O)
 - D. iodine (I)
3. Chlorine is a highly reactive element. It tends to gain one electron to become more stable. How does gaining one electron make chlorine more stable?
- A. Stability is increased with greater mass.
 - B. Mobility is reduced in atoms with extra electrons.
 - C. The outer energy level becomes the same as a noble gas.
 - D. The most stable ratio of electrons to protons is achieved.

4. The electron structure of bromine is illustrated below.



In chemical reactions, how does the valence configuration of bromine tend to change?

- A. It gains one electron.
 - B. It gains two electrons.
 - C. It loses one electron.
 - D. It loses two electrons.
5. **Based on its electron configuration, which element will MOST likely gain electrons from another element when forming an ionic compound?**
- A. potassium (K)
 - B. vanadium (V)
 - C. iodine (I)
 - D. xenon (Xe)