

Name: _____

Class/Period: _____

Assignment: 10-10 and 10-11

Teacher: Thibodeau

1 A magnesium atom that loses two electrons becomes a

- 1 positive ion with a smaller radius
- 2 negative ion with a smaller radius
- 3 positive ion with a larger radius
- 4 negative ion with a larger radius

2 Which two notations represent isotopes of the same element?

- 1 ${}^{14}_7\text{N}$ and ${}^{18}_7\text{N}$
- 2 ${}^{20}_7\text{N}$ and ${}^{20}_{10}\text{Ne}$
- 3 ${}^{14}_7\text{N}$ and ${}^{17}_{10}\text{Ne}$
- 4 ${}^{19}_7\text{N}$ and ${}^{16}_{10}\text{Ne}$

3 Which electron shell in an atom of calcium in the ground state has an electron with the greatest amount of energy?

- 1 1
- 2 2
- 3 3
- 4 4

4 In the ground state, an atom of which element has seven valence electrons?

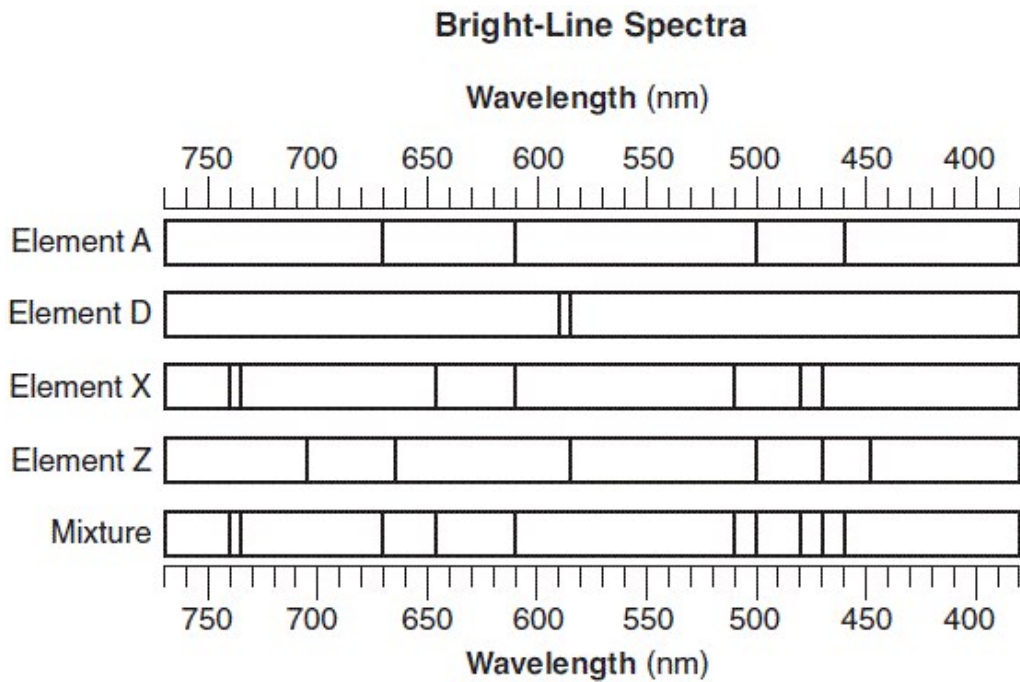
- 1 sodium
- 2 phosphorus
- 3 nitrogen
- 4 fluorine

5 Which electron configuration represents the electrons of an atom in an excited state?

- 1 2-5
- 2 2-8-5
- 3 2-5-1
- 4 2-6

Figure 1

Base your answer to the question on your knowledge of chemistry and the bright-line spectra produced by four elements and the spectrum of a mixture of elements represented in the diagram below.



Refer to Figure 1 and answer the following Question:

Each line in the spectra represents the energy

- 1 absorbed as an atom loses an electron
- 2 absorbed as an atom gains an electron
- 3 released as an electron moves from a lower energy state to a higher energy state
- 4 released as an electron moves from a higher energy state to a lower energy state