

REVIEW QUESTIONS

Chapter 4

1. Complete each question below with an appropriate term:
 - a) _____ Un-reactive elements in the last group of the periodic table.
 - b) _____ Elements in group 2 of the periodic table.
 - c) _____ Elements between the main group elements.
 - d) _____ Elements in group 7 of the periodic table.

2. Name and write symbol for each element described below:
 - a) Alkali metal in period 4: _____
 - b) Halogen in period 2: _____
 - c) Alkaline-earth metal in period 3: _____
 - d) Metalloid in period 3: _____
 - e) Noble gas in period 5: _____

3. Complete each statement below with a suitable word or phrase:
 - A) The “soccer ball” model of the atom is attributed to _____
 - B) Thomson discovered the _____ in 1897.
 - C) Rutherford discovered that the atom was mostly hollow through the _____ experiment.
 - D) The number of protons in an atom is called the _____
 - E) Isotopes of an atom have the same _____ but different _____
 - F) The group number of representative elements represents the _____

4. For each element below, use the information given to determine the number of protons, neutrons and electrons in its atom, and write shorthand notation for each.

a) Krypton (Kr) atomic number ($Z=36$); mass number ($A=84$)

$p^+ =$ _____ $n^0 =$ _____ $e^- =$ _____ Notation: _____

b) Barium (Ba) atomic number ($Z=56$); mass number ($A=137$)

$p^+ =$ _____ $n^0 =$ _____ $e^- =$ _____ Notation: _____

5. Complete the missing information in the table below:

Symbol	Ga	
Protons		15
Neutrons	39	
Electrons		
Mass number		31

6. Complete the following table with the missing information:

Ion	Number of Protons	Number of Electrons	Electrons Lost/Gained
K^+			
	12	10	
	8		2 gained
		10	3 lost

7. An unknown element Q has the following isotopic data:

Isotope	Mass (amu)	Abundance (%)
1	80.0	60.0
2	84.0	30.0
3	82.0	10.0

Calculate the average atomic mass of this element.

8. What is the relationship between each pair of elements shown below:
- a) One with 10 protons, 11 neutrons, 10 electrons and one with 11 protons, 10 neutrons and 11 electrons.
- b) One with 12 protons, 12 neutrons and 12 electrons and one with 12 protons, 14 neutrons and 12 electrons.