

Name : _____ Date : _____

Valence Electrons and Dot Diagrams

1 How many valence electron do each of the following have?

I Li ___ II P ___ III S ___ IV As ___ V C ___ VI K ___

VII Se ___ VIII In ___ IX Sr ___ X Ca ___ XI O ___ XII Na ___

2 Fill in the blanks.

Dot Diagrams represent the number of _____ for an atom. They consist of the _____ of the element which represents the _____ of the atom and _____ represents the valence electrons.

3 Write the electron configuration, Valence electrons, and dot diagrams of the following elements.

Element	Electron configuration	Number of valence electrons	Dot diagram
Magnesium			
Phosphorous			
Fluorine			
Argon			
Potassium			
Oxygen			

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Answers

1 How many valence electron do each of the following have?

I Li 1 II P 5 III S 6 IV As 5 V C 4 VI K 1

VII Se 6 VIII In 1 IX Sr 2 X Ca 2 XI O 6 XII Na 1

2 Fill in the blanks.

Dot Diagrams represent the number of valence electrons for an atom. They consist of the symbol of the element which represents the core of the atom and dots represents the valence electrons.

3 Write the electron configuration, Valence electrons, and dot diagrams of the following elements.

Element	Electron configuration	Number of valence electrons	Dot diagram
Magnesium	2.8.2	2	Mg:
Phosphorous	2.8.5	5	$\begin{array}{c} \cdot \\ \cdot \text{P} \cdot \\ \cdot \end{array}$
Fluorine	2.7	7	$\begin{array}{c} \cdot \\ \cdot \text{F} \cdot \\ \cdot \end{array}$
Argon	2.8.8	8	$\begin{array}{c} \cdot \cdot \\ \cdot \text{Ar} \cdot \\ \cdot \cdot \end{array}$
Potassium	2.8.8.1	1	K·
Oxygen	2.6	6	$\begin{array}{c} \cdot \cdot \\ \cdot \text{O} \cdot \\ \cdot \cdot \end{array}$