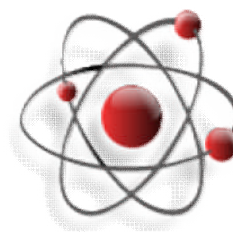


Electron Configuration and Lewis Dot Symbols



"It seems a little paradoxical to construct a configuration space with the coordinates of points which do not exist". – Louis de Broglie

FORMAT

The test will consist of the following new topics:

- electron configuration
- orbital notation
- Lewis Dot Symbols
- oxidation numbers and bonds

If you want partial credit, you must show your work. Attempt every problem and do not leave any blanks.

Note: You will need your calculator and periodic table

KNOW

electron configuration
valence electrons
Lewis dot symbols
Aufbau principle
Heisenberg's uncertainty principle
Pauli exclusion principle
Hund's rule

BE ABLE TO:

- recognize an element's electron configuration
- write out an element's electron configuration
- write out an element's orbital notation
- write the quantum numbers for specific electrons
- describe an atom

Review

- atomic structure
- nuclear symbols
- quantum theory
- conversions
- quantum numbers

PRACTICE**DIRECTIONS:** Write a brief description for each of the following.

valence electrons –

octet rule –

Lewis dot symbols –

oxidation number –

DIRECTIONS: Write the electron configuration ($1s^2$) for the following elements.

Na _____

Cu _____

Ca _____

F _____

DIRECTIONS: Write the orbital notation ($\uparrow\downarrow$) for the following elements.

P _____

Cr _____

K _____

Cl _____

Directions: Determine the number of valence electrons in the following elements.

____ I ____ Co ____ O ____ Be ____ Fe ____ Li ____ K ____ N

DIRECTIONS: Draw the Lewis dot symbols of the following: I Co Be Fe K O N**DIRECTIONS:** Determine the oxidation number of the following:

____ I ____ Co ____ Be ____ Fe ____ K ____ Li ____ O ____ N

DIRECTIONS: Determine the number of bonds for the following:

____ I ____ Co ____ Be ____ Fe ____ K ____ Li ____ O ____ N

THINK: Write the quantum numbers for the valence electrons of phosphorus. (on a separate piece of paper)**“Don’t find fault; find a remedy.” -- Henry Ford**