Periodic Table Worksheet

1. Write electronic configurations of the following elements.
a) $_{20}Ca$ b) $_{26}Fe$ c) $_{14}Si$ d) $_{34}Se$ e) $_{27}Co$

2. What are the groups and period numbers of each of the following atoms?
a) $_{11}Na$ b) $_{13}Al$ c) $_{16}S$ d) $_{34}Se$ e)$_{36}Kr$

3. Consider the following elements that have the atomic numbers 3 , 8 , 11 , 16 , 18 , 19 , 33.
Which of these elements have similar chemical properties?

4. X^{+3} has 28 electrons, what is the place of neutral X atom in periodic table?

5. A^{-2} ion has 8 electrons in its 3rd energy level. What are the group and period number of neutral A?

6. What is the atomic number of the element, which is found in the 4th period and group IIIA?

7. A^{-3} and B^{-1} have the same number of electrons. If B is in the 2nd period and group VIIA, what is the place of A in the table?

8. Given the elements; $_9X$, $_{11}Y$, $_{12}Z$, $_{13}Q$, $_{16}L$, and $_{17}M$. And, answer the following questions.
A. Draw a simple periodic table by placing the elements above. Also show groups and periods.
B. Write electron configurations of Q. .....
C. How many electrons are there in the 3rd energy level of L^{+4}? .....
D. Which one has the highest electronegativity? .....
E. Compare Y, Z, and Q in terms of ionization energy. .....
F. Which one has the largest atomic size? .....
G. Which ones are p block elements? .....
H. Which ones are halogens? .....
I. Which one shows the most metallic character? .....

9. Given the elements; $_{17}Cl$, and $_{34}Se$. Answer the following questions.
A. Write their electron configurations.
B. Find their valence electron number.
C. Find their group and period numbers.

10. The electron configuration of P^{-3} ends with $3p^6$. Find the place of this element in the periodic table.

11. $_{33}As$ atom is given,
A. Write spdf electron configuration.
B. Find the place in the periodic table.
C. Draw the electron diagram
D. Find the number of electrons in s, p and d orbitals
E. Find the number of full and half-full orbitals.

MULTIPLE CHOICE QUESTIONS

1. What is the atomic number of the atom that has 6 electrons in its 4th energy level?

A) 32 B) 34 C) 36 D) 38 E) 40

2. Which one is **not** found in p block of the periodic table?

A) $_{12}Mg$ B) $_{13}Al$ C) $_{15}P$ D) $_{16}S$ E) $_{18}Ar$

3. X^{2+} ion has 36 electrons. What is the group and period number of X?

A) group 8A - 4^{th} period B) group 2A - 5^{th} period
C) group 6A - 4^{th} period D) group 4A - 5^{th} period
E) group 2A - 4^{th} period

4. What is the proton number of the element which is found in the 4^{th} period and 1A group?

A) 11 B) 19 C) 29 D) 33 E) 37

5. How many valence electrons does an element with an atomic number of 35 have?

A) 1 B) 2 C) 3 D) 5 E) 7

6. What is the number of electrons of $_{32}Ge$ atom in the fourth energy level?

A) 8 B) 6 C) 4 D) 2 E) 1

7. Which electrons are **not** found in any atom?

A) 3p electrons B) 4s electrons
C) 2s electrons D) 2d electrons
E) 3d electrons

8. What is the atomic number of element that has four electrons in its 4p orbital?

A) 22 B) 24 C) 28 D) 32 E) 34

9. S atom has 16 protons. What is the electron configuration of S^{2-} ion?

A) $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^2$ B) $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^4$
C) $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6$ D) $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3d^2$
E) $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3d^6$

10. The electron configuration of X^{2-} ion is given as
$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6$ and X atom has 16 neutrons. What is the atomic mass number of X ?

A) 14 B) 16 C) 20 D) 32 E) 34

11.
I. *number of electrons*
II. *atomic number*
III. *mass number*

Which one(s) help(s) us to determine the place of an element in the periodic table?

A) I B) II C) III D) I-II E) I-II-III

12. Electron configuration of an element is given as, $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 4s^2\ 3d^{10}\ 4p^3$

Which one of the following is the group number of this element?

A) 7A B) 5A C) 4A D) 3A E) 2A

13. Which one of the following has noble gas electron configuration?

A) ${}_8O^-$ B) ${}_{12}Mg^+$ C) ${}_{19}K^+$ D) ${}_{26}Fe^{2+}$ E) ${}_{29}Cu^+$

14. Which elements in the following pairs have the same chemical properties?

A) ${}_3X - {}_4Y$ B) ${}_2Z - {}_{12}V$ C) ${}_2Z - {}_{14}R$ D) ${}_4Y - {}_{14}R$ E) ${}_3X - {}_{19}T$