

Fill in each box completely with the atom name and symbol, then the rounded to the nearest whole number mass, the number of protons and neutrons, and electrons. Show the electron configuration for the ground state - unless asked to show an excited state. No blanks, answer the other questions as you go.

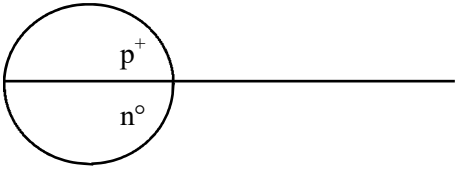
The number at top left in each box is the ATOMIC NUMBER, they are NOT IN ORDER.

1 - ____ - _____

At. Mass =
- # p^+ =

n^0 =

e^- =

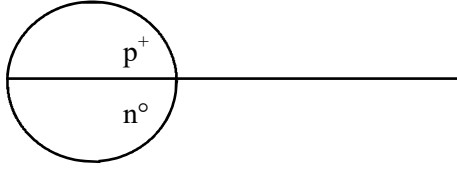


5 - ____ - _____

At. Mass =
- # p^+ =

n^0 =

e^- =



Hydrogen is the only atom on the periodic table that has \rightarrow NO _____

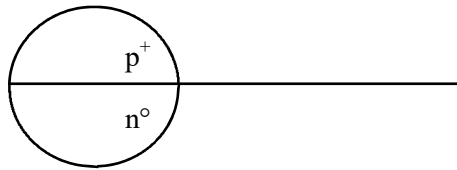
The electron configurations on the periodic table are always shown in the _____ State.

9 - ____ - _____

At. Mass =
- # p^+ =

n^0 =

e^- =

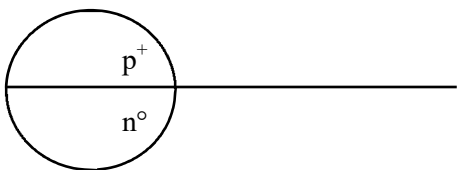


10 - ____ - _____

At. Mass =
- # p^+ =

n^0 =

e^- =

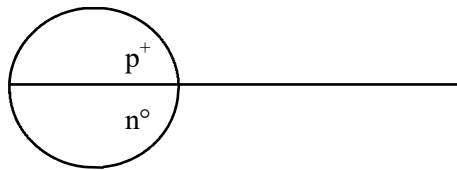


12 - ____ - _____ SHOW excited state!

At. Mass =
- # p^+ =

n^0 =

e^- =

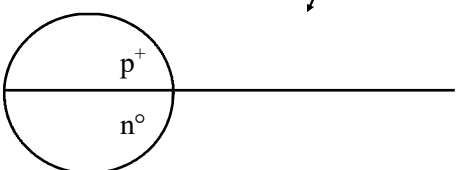


14 - ____ - _____ SHOW excited state!

At. Mass =
- # p^+ =

n^0 =

e^- =

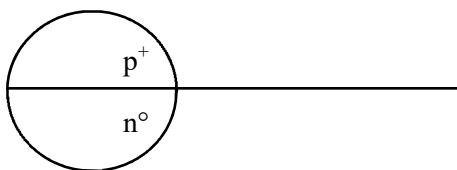


16 - ____ - _____

At. Mass =
- # p^+ =

n^0 =

e^- =

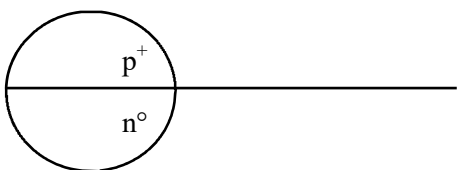


17 - ____ - _____

At. Mass =
- # p^+ =

n^0 =

e^- =



The name of the group 18 elements (2-86) is the

What is special about this group, different than all the other groups of atoms? They have ONLY...

List their symbols: _____

22 - ____ - _____

At. Mass =
- # p^+ =

n^0 =

e^- =

25 - ____ - _____

At. Mass =
- # p^+ =

n^0 =

e^- =

26 - ____ - _____ SHOW excited state!

At. Mass =
- # p^+ =

n^0 =

e^- =

29 - ____ - _____

At. Mass =
- # p^+ =

n^0 =

e^- =

30 - ____ - _____

At. Mass =
- # p^+ =

n^0 =

e^- =

36 - ____ - _____ SHOW excited state!

At. Mass =
- # p^+ =

n^0 =

e^- =

Check now...

Does every atom have the same number of protons as electrons? Yes or No

Look at the electron configuration for zinc. Add up those electrons in the orbitals.

What number does it equal in the Zn box on the periodic table?.....The _____

Is that ALWAYS true that the number of electrons equals the atomic number? Yes or No

How can the atomic number equal the number of electrons if it also equals the number of protons? _____

The next two are not the most common isotopes, but the mass is given. Be careful with the # of protons, neutrons, electrons.

38 - ____ - _____

At. Mass = 89 amu
- # p^+ =

n^0 =

e^- =

47 - ____ - _____

At. Mass = 109 amu
- # p^+ =

n^0 =

e^- =

50 - ____ - _____

At. Mass =
- # p^+ =

n^0 =

e^- =

54 - ____ - _____

At. Mass =
- # p^+ =

n^0 =

e^- =

55 - ____ - _____ SHOW excited state!

At. Mass =
- # p^+ =

n^0 =

e^- =

56 - ____ - _____

At. Mass =
- # p^+ =

n^0 =

e^- =

Something "odd" happens with Hafnium, element number 72. What is the electron configuration for Hf? What does that asterisk mean? Copy it from the periodic table.

* _____

Does any atom EVER start with 18 electrons in the first orbital?..... Yes or No
How many electrons can fit in the first orbital of any atom?..... _____

How many electrons can fit into the second orbital of an atom?..... _____

How many total electrons fit into the first two orbitals of gold?..... _____

What is the configuration of the first THREE orbitals of mercury? _____

Why does NYS put one asterisk into the table?

72 - ____ - _____

At. Mass =
- # p^+ =

n^0 =

e^- =

74 - ____ - _____

At. Mass =
- # p^+ =

n^0 =

e^- =

79 - ____ - _____

At. Mass =
- # p^+ =

n^0 =

e^- =

84 - ____ - _____

At. Mass =
- # p^+ =

n^0 =

e^- =

86 - _____ - _____

At. Mass =
- # p^+ =

n^0 =

e^- =

92- _____ - _____

At. Mass =
- # p^+ =

n^0 =

e^- =

104 - _____ - _____

At. Mass =
- # p^+ =

n^0 =

e^- =

no e^- config here

107- _____ - _____

At. Mass =
- # p^+ =

n^0 =

e^- =

no e^- config here

Isotopes are chemically identical atoms, with different numbers of neutrons. They exist, but for no apparent reason. They just are. All atoms are isotopes, some are the “most common isotopes” of that element. Any isotope can be in the ground state, or excited state. The last of these boxes have elements, with their isotopes and the naturally occurring proportions. Figure out their average weighted atomic masses. Sometimes when given actual masses, with decimals, use the ACTUAL MASS. No reason to round down when better measures are available. SF count
Do the math below, put answer in box

Element Ao

Isotope	Mass	Proportion
Ao-53	53.42 amu	71.33%
Ao-54	54.12 amu	16.93%
Ao-56	56.04 amu	11.74%
Average weighted atomic mass =		

Element Bp

Isotope	Mass	Proportion
Bp-43	42.99 amu	76.25%
Bp-44	44.15 amu	12.84%
Bp-46	46.22 amu	10.91 %
Average weighted atomic mass =		