Name: _____
Hour: ____ Date: _____

## Chemistry: *Atomic Number and Mass Number*

Complete the following chart and answer the questions below.

| *Element Name* | *Atomic Number* | *Number of Protons* | *Number of Neutrons* | *Mass Number* | electrons | Isotope symb |
|---|---|---|---|---|---|---|
| carbon | | | | 12 | | $^{12}_{6}C$ |
| | 8 | | 8 | | | |
| hydrogen | | | | 1 | | |
| | | 6 | | 14 | | |
| hydrogen | | | 2 | | | |
| nitrogen | | | | 14 | | |
| | | | 1 | 2 | | |
| | 92 | | 146 | | | |
| cesium | | | 82 | | | |
| | 11 | | 12 | | | |
| | | 47 | | 108 | | |
| tungsten | | | 110 | | | |
| | | | 45 | 80 | | |
| | | 24 | | 52 | | |
| | | | 89 | 152 | | |
| silver | | | | 107 | | |
| | 76 | | 114 | | | |

How are the *atomic number* and the *number of protons* related to each other?

How do the *number of protons*, *number of neutrons*, and the *mass number* relate to each other?

What is the *one thing* that determines the identity of an atom (that is, whether it is an oxygen atom or a carbon atom, etc.)?

# Isotope Notation

Name _____

**Answer the following questions about atoms.**

1. The identity of an atom is determined by the number of _____
2. The particle(s) found inside the nucleus are called: _____
3. The number of protons and neutrons combined is called the _____
4. In an atom the number of protons is always equal to the number of _____
5. The number of protons is also called the _____
6. The atoms with the same number of protons but different numbers of neutrons is called a(n) _____
7. The number of protons found in a sulfur atom is _____
8. The number of neutrons found in an aluminum-27 atom is _____
9. The number of electrons found in a zinc atom is _____
10. What is the name of the element with 82 protons? _____

**Give the symbols and names for the isotopes described by the following particles.**

11. 92 protons, 145 neutrons

12. *8 protons, 10 neutrons*

13. 82 protons, 125 neutrons

14. 78 protons, 117 neutrons

15. 20 protons, 20 neutrons

16. *22 protons, 23 neutrons*

17. 18 protons, 22 neutrons

18. 25 protons, 32 neutrons

**Determine the number of protons and neutrons from the following symbols.**

19. $^{10}_{5}B$

20. $^{15}_{7}N$

21. $^{79}_{34}Se$

22. $^{119}_{50}Sn$

23. $^{165}_{66}Dy$

24. $^{36}Fe$

25. $^{151}Sm$

26. $^{195}Pt$

27. $^{200}Hg$

28. $^{93}_{41}?$