

Rules for drawing atoms

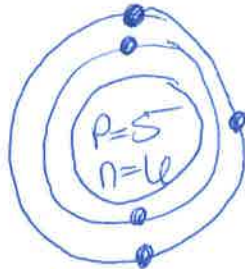
1. Atomic number = # of protons (and electrons in a neutral atom)
2. Atomic mass = # of protons and neutrons
3. # Neutrons = atomic mass – atomic number
4. Always list the number of subatomic particles before drawing the atom.
5. Protons and neutrons are placed in the nucleus
6. Electrons are placed on electron shells (circles) around the nucleus.
7. The first shell can hold two electrons, the second can hold eight, and the third can hold eight.
8. The shell closest to the nucleus is filled first (proceed outward to the second shell and then to the third shell).
9. Electrons are placed in a clockwise order from the 12 o'clock position, the 3 o'clock, 6 o'clock, and finally 9 o'clock.
10. Step 9 can be repeated for the second and third shells if there are more electrons.

A few practice problems...

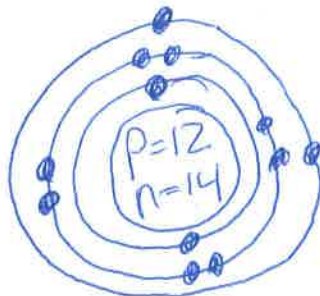
$$\begin{aligned} p^+ &= 2 \\ n &= 2 \\ e^- &= 2 \end{aligned}$$



$$\begin{aligned} p^+ &= 5 \\ n &= 6 \\ e^- &= 5 \end{aligned}$$



$$\begin{aligned} p^+ &= 12 \\ n &= 14 \\ e^- &= 12 \end{aligned}$$

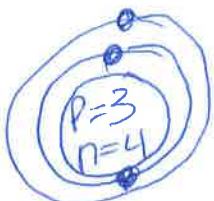
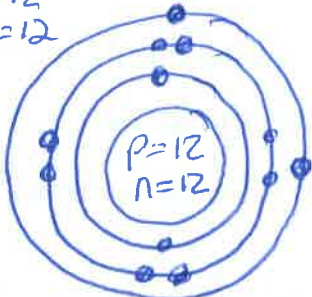
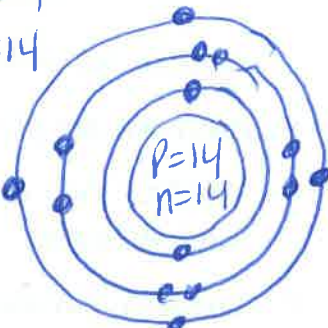
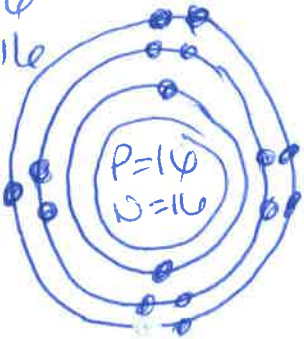
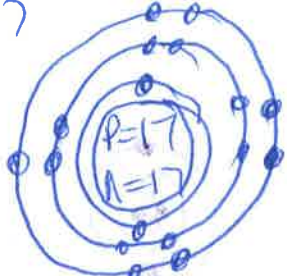


Atom Drawing

Name _____

Draw the following atoms:

Make sure you list the number of subatomic particles in each atom

<p>Lithium</p> <p>$P=3$ $n=4$ $e=3$</p> 	<p>Magnesium</p> <p>$P=12$ $E=12$ $N=12$</p> 	<p>Silicon</p> <p>$P=14$ $e=14$ $n=14$</p> 
<p>Sulfur</p> <p>$P=16$ $E=16$ $N=16$</p> 	<p>Chlorine</p> <p>$P=17$ $E=17$ $N=17$</p> 	<p>Aluminum</p> <p>$P=13$ $E=13$ $N=14$</p> 