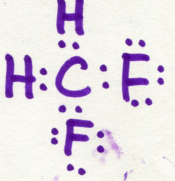
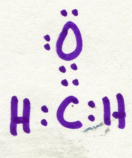
|  |  |  |
| --- | --- | --- |
| Bonds  EHS Cλ3MIs+rγ  Mr. Genest | http://mlblogsbensbiz.files.wordpress.com/2008/09/umpire-thumb-212x3502.gif | Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

1. How many valence e- are in an atom that is 1s22s12p5?
2. What two types of elements will combine to form a
   1. ionic bond?
   2. metallic bond?
   3. covalent bond?
3. Atoms are stable when they have either an octet of e- (eight e- around most elements) or a duet of e- (two e- around beryllium, lithium, hydrogen, helium). draw a circle around each stable atom. If you find an unstable atom, write UNSTABLE next to it.

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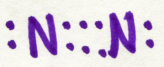
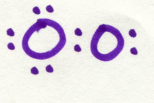
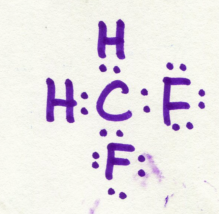
1. Convert these dot-drawings to line-shorthand drawings.

|  |  |
| --- | --- |
|  | 1. For the molecule shown here,    1. What is the formula of the substance? (e.g. the formula of water would be written *H2O*)    2. how many bonds does it have?    3. altogether, how many e- are in bonds?    4. altogether, how many e- are nonbonding?    5. how many valence e- altogether? |

1. Why do the electrons hold together atoms in a
   1. ionic bond?
   2. metallic bond?
   3. covalent bond?
2. 1s22s22p63s23p64s23d9 has \_\_\_\_ valence e- . Its dot symbol is…

1. Draw the electron dot symbol for a neutral atom of each:
   1. calcium
   2. chlorine
2. (Circle one) **Ionic bonds** are usually formed when nonmetals react with (metals/nonmetals)
3. (Circle one) **Covalent bonds** are usually formed when nonmetals react with (metals/nonmetals)
4. (Circle one) **Metallic bonds** are usually formed when metals react with (metals/nonmetals)
5. Atoms are stable when they have either an octet of e- (eight e- around most elements) or a duet of e- (two e- around beryllium, lithium, hydrogen, helium). draw a circle around each stable atom. If you find an unstable atom, write UNSTABLE next to it.

1. Convert these dot-drawings to line-shorthand drawings.

