Practice:

Classify the compounds as ionic, non-polar covalent, polar covalent:

a. Cs-F ionic

b. N-S
3.04 2.58 polar-cov.

c. C-F
2.55 3.98 polar-cov.

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Practice:

Determine if the following describes an ionic or covalent compound:

1. Can be nonpolar due to equal electron sharing. C
2. Formula must have balanced charges. I
3. Formed by oppositely charged ions attracting. I
4. Have very high melting points and boiling points. I
5. Formed between a metal and a nonmetal. I
6. Has bonding and unshared electron pairs. C
7. Formed by a shared pair of electrons. C

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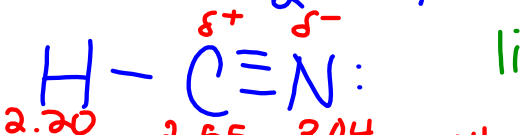
Practice:

Draw the Lewis structure, identify the shape and the molecular polarity:

a. HCN

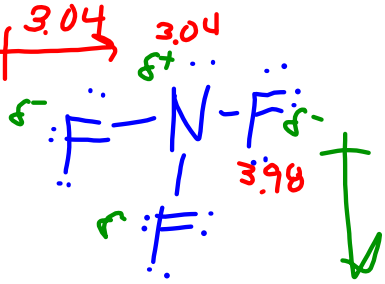
have 3 + need 3 +

1+4+5=10/2 = 5 pairs



linear polar cov.

b. NF_3



trigonal pyramidal polar cov.

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Practice:

Name the following compounds:

a. $MnCO_3$

manganese (II) carbonate

b. P_2O_5

diphosphorus pentoxide

c. SrF_2 strontium fluoride

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Practice:

Write the formula for the following compounds:

a. nitrogen monoxide

NO

b. magnesium hydroxide

$Mg(OH)_2$

c. tricarbon octahydride

C_3H_8

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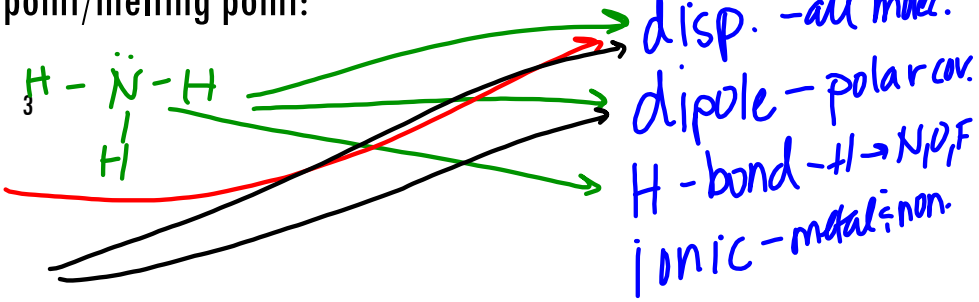
Practice:

Determine the main intermolecular force acting on the following and put them in order of increasing boiling point/melting point:

a. NH_3

b. F_2

c. HCN



$F_2 < HCN < NH_3$

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Practice:

Describe the differences in bond strength between ionic and covalent compounds. Provide reasons as to why the strength differs.

ionic

- ↑ BP & MP
- crystal lattice (tightly packed)
- ↑ IMF

covalent

- ↓ BP & MP
- Lewis structure 
- ↓ IMF

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