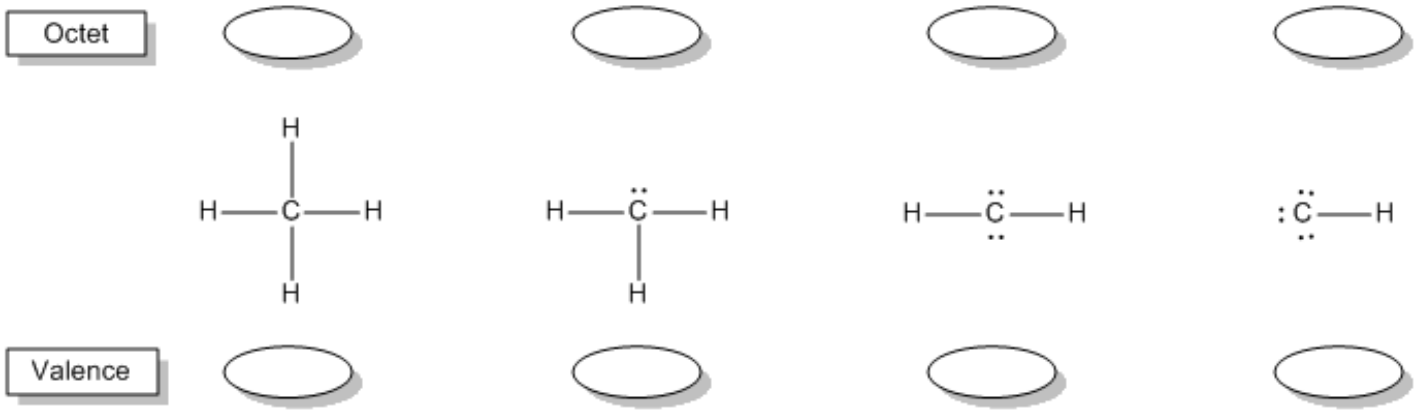
CONCEPT: BONDING PREFERENCES

There may be many ways to combine *octet electrons* to satisfy the octet rule for a certain atom:

- _____ electrons are the name we give to the *octet electrons* that the atom actually "owns". The number of these determines which of the possible octets will be the most stable.
  - □ An atom owns **every** lone electron it has
  - □ An atom owns ___ electron for every bond that it has

EXAMPLE: Find the total number of ***octet electrons*** and ***valence electrons*** in the following hydrocarbons. Do all of these compounds satisfy the octet rule? If so, are they all equally stable?



The amount of electrons that the valence shell of each 2nd row element prefers to "own" is determined by its group number on the periodic table. This will determine how many bonds it wants to have in its most stable state.

Element	Hydrogen (**H**)	Berylium (**Be**)	Boron (**B**)	Carbon (**C**)	Nitrogen (**N**)	Oxygen (**O**)	Fluorine (**F**)
Group	1A	2A	3A	4A	5A	6A	7A
Bonding Preference							
Bonds							
Lone Pairs							