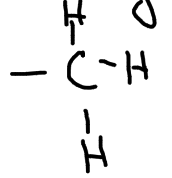
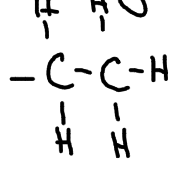
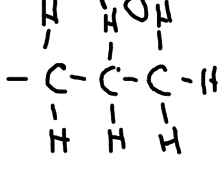
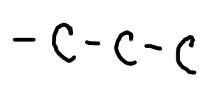
Ch 25 HW:Sec Rev 8,30-32
Sec 25.1A
obj: Name and draw structual formulas for branched chained alkanes.

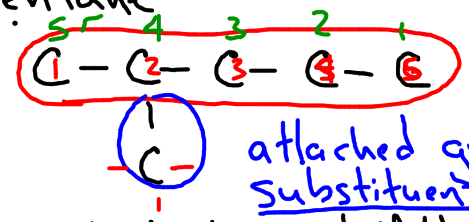
Branched Chained Alkanes

- Alkanes w/ 1 or more hydrogen replaced by an atom or group of atoms.
  * an atom or group of atoms that replace a hydrogen is called a substituent.
    * Halogen, Oxygen, Phosphorus, sulfur nitrogen & others.
- Branched chained Alkanes are sometimes called a substituted hydrocarbon.

* Alkyl Group ⇒ An Alkane which is missing a Hydrogen on a terminal carbon.
- 3 Alkyl Groups

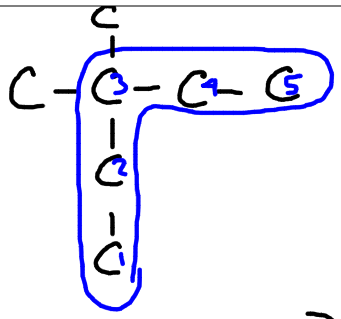
methyl	Ethyl	Propyl
		
$-CH_3$	$-CH_2CH_3$	$-CH_2CH_2CH_3$
$-C$	$-C-C$	$-(CH_2)_2CH_3$
		

2-methylpentane



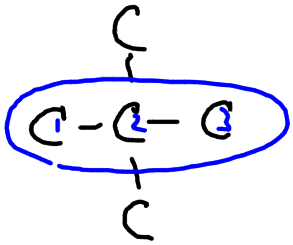
Naming Branched Chained Alkanes

1) Identify the parent of the Compound.
   * Longest continuous carbon chain.
2) Give the Location & Type of Substituent.
   * Number the carbon in the chain.
   * The carbon w/ the substituent must have the smallest possible number.

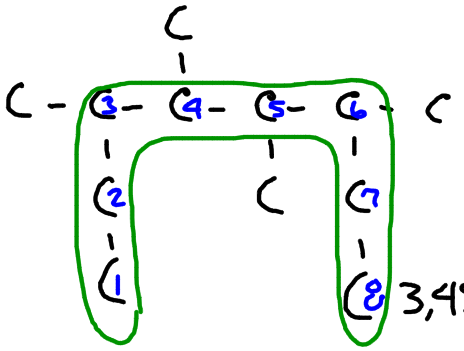


3-methyl-pentane

3,3-dimethyl-pentane



2,2-dimethyl-propane



3,4,5,6 - tetra methyl - octane

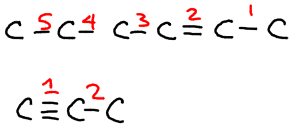
Prefixes for Groups

di: - 2

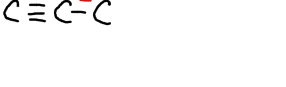
tri: - 3

tetra - 4

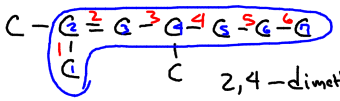
Naming Alkenes & Alkynes



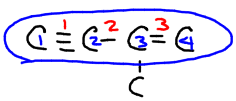
2-hexene



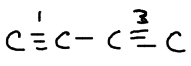
-propyne



2,4 - dimethyl-2- heptene



3-ethyl-3-ene-1-butyne

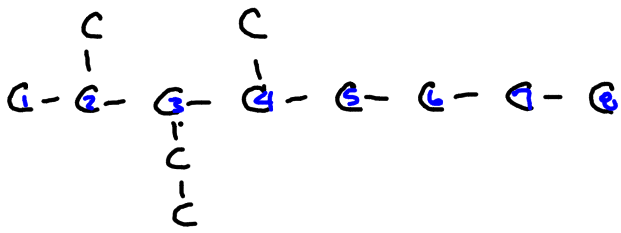


1,3 -butyne

Drawing Structual Formulas

1) Always start w/the root/parent.
   * structure of the continuous chain.
2) Number bonds/carbon in root/parent.
3) Place attached groups to the indicated carbon of the root/parent.

3-ethyl-2,4-dimethyl-octane



3-ethyl-4-methyl-2-hexene