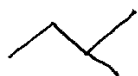
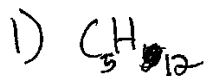
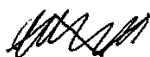


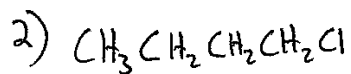
Draw all isomers and name them for the following!



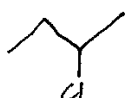
2-methylbutane



2,2-dimethylpropane



1-chlorobutane



2-chlorobutane



1-chloro-2-methylpropane



2-chloro-2-methylpropane



hexane



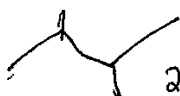
2-methylpentane



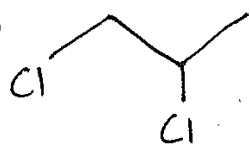
3-methylpentane



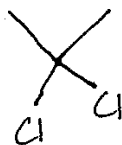
2,2-dimethylbutane



2,3-dimethylbutane



~~1,2-dichloropropane~~
1,2-dichloropropane



2,2-dichloropropane



1,3-dichloropropane



Vertical line



Horizontal line



Diagonal line



Diagonal line



Vertical line



Horizontal line



Diagonal line



Diagonal line



Vertical line



Horizontal line



Diagonal line



Diagonal line



Vertical line



Vertical line



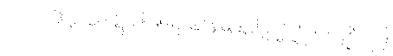
Horizontal line



Diagonal line



Diagonal line



Vertical line



Horizontal line

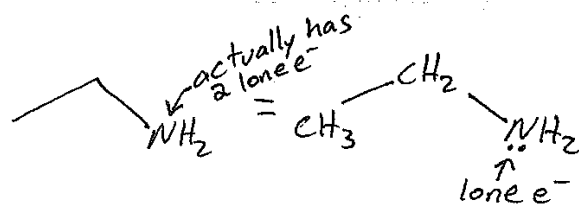
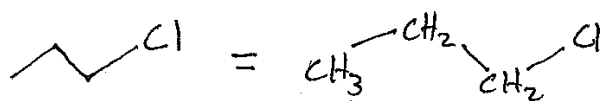
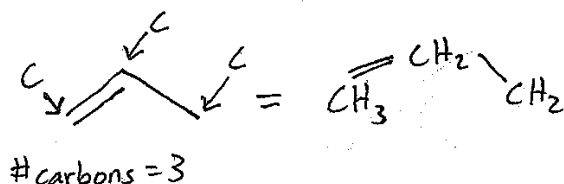
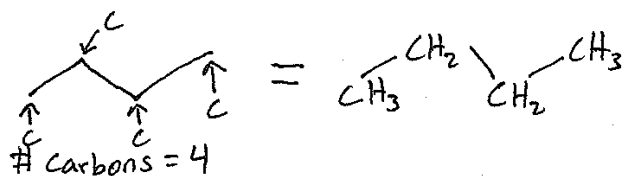


Diagonal line

Line-Angle/Skeletal Structures

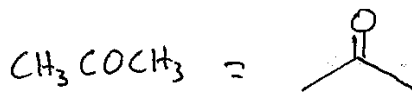
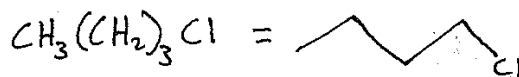
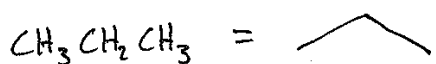
- each vertex is a Carbon
- hydrogens are not shown

- shows non-C/H atoms
- may not show lone ~~at~~ e⁻



Condensed Structures

- Bonded units written horizontally



Cycloalkanes

- (cyclo) prefix followed by name for # of C



3 carbons
cyclopropane



6 carbons
cyclohexane



4 carbons
cyclobutane



7 carbons
cycloheptane

Naming Alkanes

- prefixes for varying # of Cs

1) Identify longest carbon chain

2) Ensure the lowest numbering/sum for substituents

3) Name halogen groups

4) Name alkyl groups

7 ABC order within each step

5) Add prefixes di, tri, tetra, etc when multiple of the same substituents

Name the following compounds:



2-methylheptane



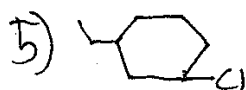
methylcyclobutane



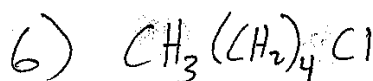
2,2-dimethylbutane



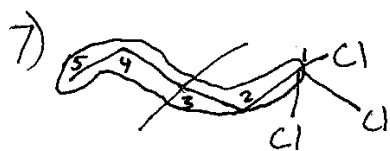
1-fluoropropane



1-chloro-3-ethylhexane



1-chloropentane



1,1,1-trichloro-3,3-dimethylpentane



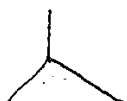
3-iodo-5-cyclobutylpentane

Constitutional Isomers

- Same molecular formulas
- Different arrangement of atoms



C_4H_{10}



C_4H_{10}

- 1) Create longest possible alkane chain
- 2) Break off one carbon at a time to form new isomers
 - add carbon at different spots
- 3) Check to ensure the two structures are not identical