

Name: _____

Blk: _____ Date: _____

Chemistry 11
Organic Chemistry
Lesson #2 NAMING BRANCHED HYDROCARBONS

In order to name a single chained hydrocarbon you have to understand that there can be _____ made to any carbon in an organic molecule,

It is these _____ that change the name of the structure. The first type of attached group that we are going to learn are called _____,

An ALKYL is simply an ALKANE that has one less _____ atom, This missing hydrogen frees up a _____ and allows it to attach itself to the organic molecule,

When naming an **ALKYL**, change the "ANE" ending of the alkane to "YL"

Fill in the following table with the appropriate **expanded structures**

NAME	# of C	FORMULA
METHYL		
ETHYL		
PROPYL		
BUTYL		
PENTYL		
HEXYL		
HEPTYL		
OCTYL		
NONYL		
DECYL		

RULES FOR NAMING BRANCHED HYDROCARBONS:

1.

2.

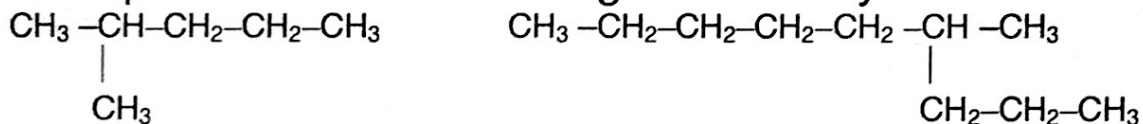
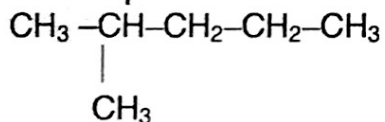
3.

4.

5.

IMPT: the atoms in the parent hydrocarbon are numbered to give the LOWEST POSSIBLE NUMBERS to the attached ALKYLs.

Example 1: Name the following branched hydrocarbons



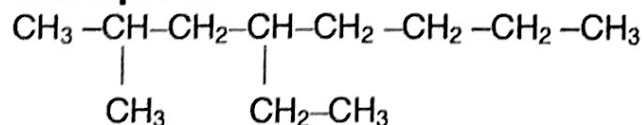
MORE RULES: When more than one attached alkyl is present

1.

2.

3.

Example 2:



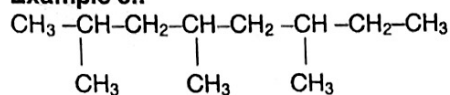
ANOTHER RULE: if the SAME alkyl group is repeatedly attached:

1.

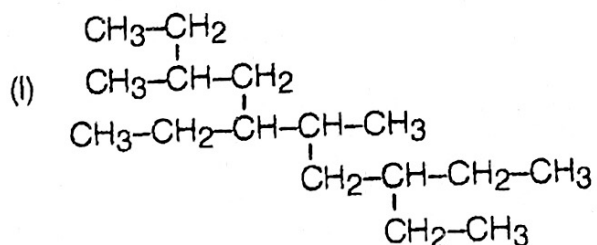
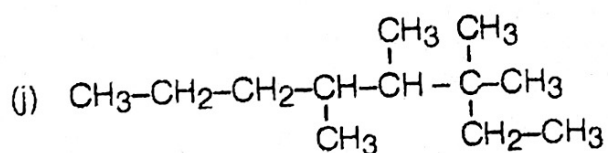
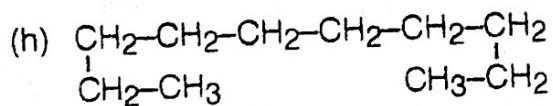
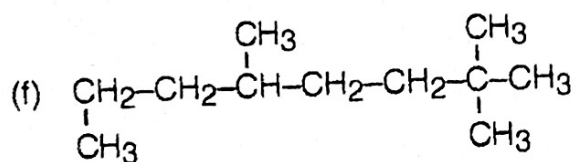
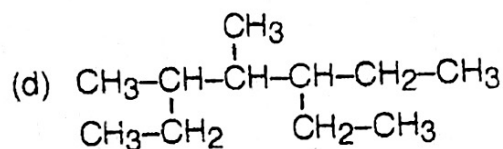
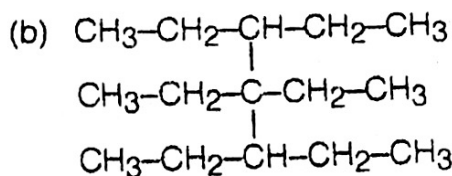
2.

3.

Example 3.:



HOMEWORK: QUESTIONS 8 and 9 page 221



- (f) 5-butyl-6,6-diethyl-3,3,7-trimethyldecane
(g) dimethylpropane (why were no numbers used?)
(h) 4-ethyl-2-methyloctane
(i) hexamethylpentane
(j) 3,6-diethyl-4-methyl-5-propyloctane