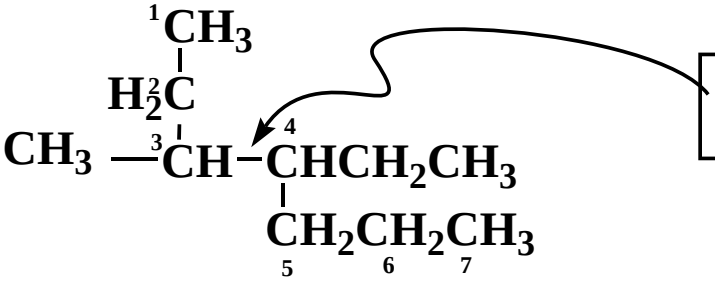
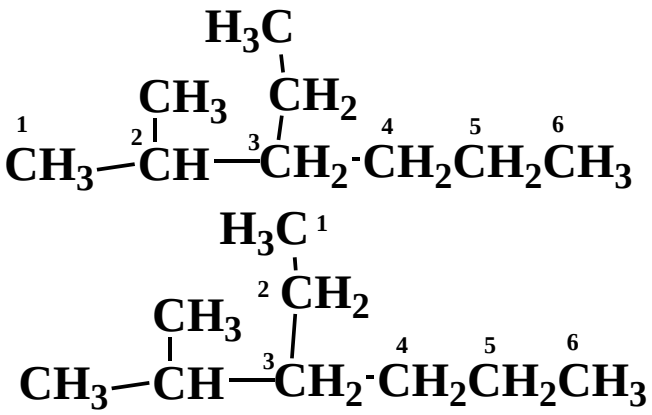
1. Find the parent

Find the longest continuous carbon chain of carbon atoms present in the molecule, and use the name of that chain as the parent (root, stem).



YOU MAY HAVE TO TURN CORNERS

If two chains of equal length are present, choose the one with larger number of branch points.



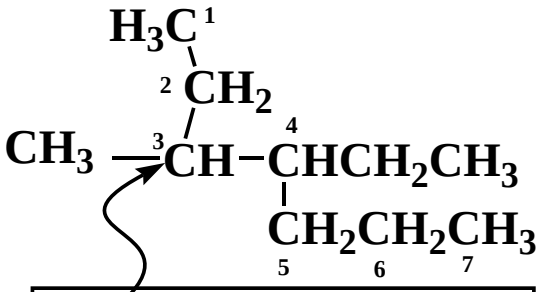
Name as a substituted hexane with two substituents,

not

a substituted hexane with one substituent.

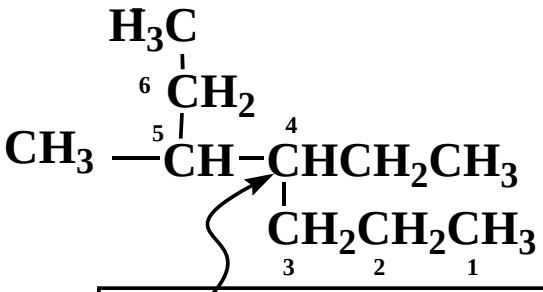
2) Number the atoms in the main chain

a. Beginning at the end nearer the first branch point, number the carbons in the longest chain.



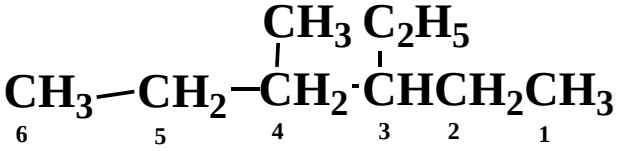
Number 3 is the first branch point

NOT

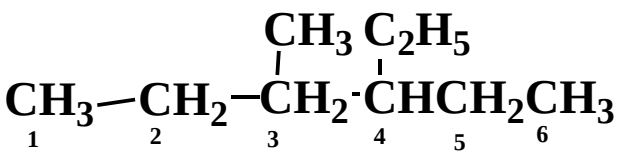


Number 4 is the first branch point

b. If there is branching an equal distance away from each end, use the alphabet to decide how to number. The substituent that come first in alphabetical order is attached to lower number carbon. If there are more than two substituents, *always remember lowest possible number.*



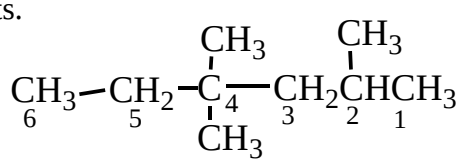
NOT



3) Identify and number substituents

a. Assign a number to each substituent according to its point of attachment to main chain.

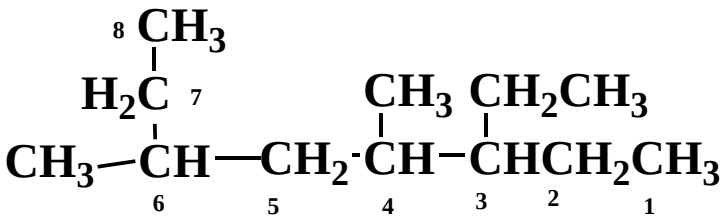
b. If there are two substituents on the same carbon, give them both the same number. There must be as many numbers in the name as there are substituents.



2-methyl
4-methyl
4-methyl

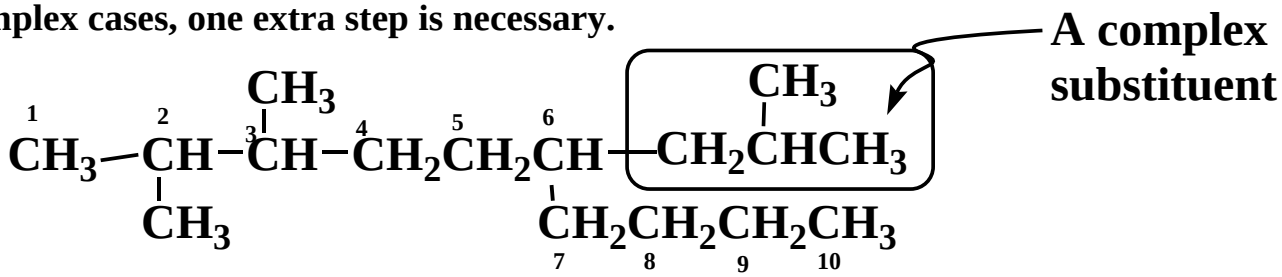
4) Write the name as a single word

Use hyphens to separate the different prefixes, and use commas to separate numbers. If two or more identical substituents are present, cite them in alphabetical order. If two or more identical substituents are present, use one of the multiplier prefixes, di, tri, tetra,....and so forth. Don't use these prefixes for alphabetising purposes.

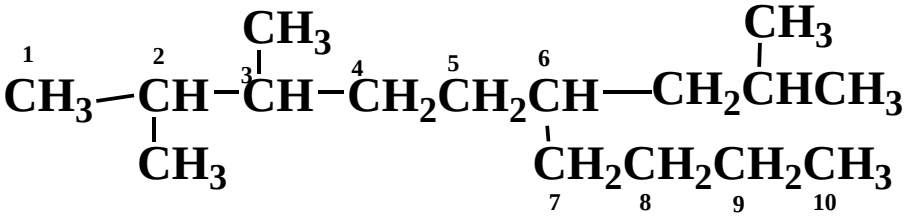


3-Ethyl-4,6-dimethyloctane

For complex cases, one extra step is necessary.

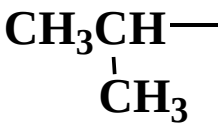


5) Name a complex substituent just as it were itself a compound. The substituent above example is a substituted propyl group.Begin numbering the substituent at the carbon that is attached to main group. The substituent is alphabetized like any other substituent according to the first letter of its name (including any numerical prefix), and is set off in parentheses when naming the compound.

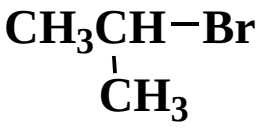


2,3-Dimethyl-6-(2-methylpropyl)decane

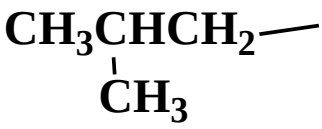
The Common Name of some Branched Alkyl groups



Isopropyl
1-methylethyl

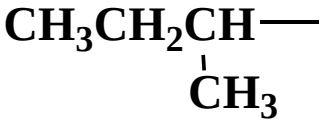


Isopropylbromide
2-Bromopropane



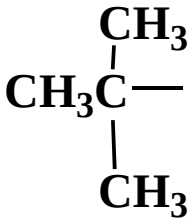
Isobutyl
2-Methylpropyl

Isobutylbromide
1-Bromo-2-methylpropane

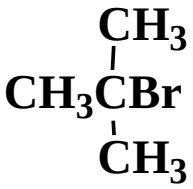


sec -Butyl
1-Methylpropyl

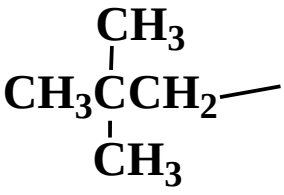
sec-Butylbromide
2-Bromobutane



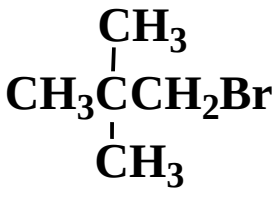
tert-Butyl
1,1-Dimethylethyl



tert-butylbromide
2-Bromo-2-methylpropane



Neopentyl
2,2-Dimethylpropyl



Neopentylbromide
1-Bromo2,2-Dimethylpropane

For the purpose of naming *iso*, and *neo* are part of alphabet, not *sec*- or *tert*-.