

Practice Naming Exercise

Determining the parent chain:

The longest continuous carbon chain to determines the 'root' name.

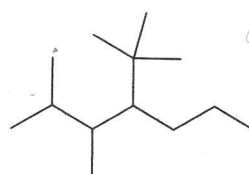
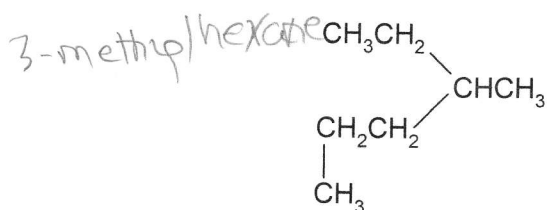
The parent chain must contain the highest priority functional group.

Always start the numbering system to yield the lowest substituent number set.

For alkanes, if there is more than one chain with same number of carbons, choose the one with greater degree of branching.

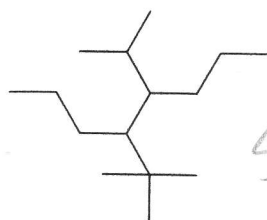
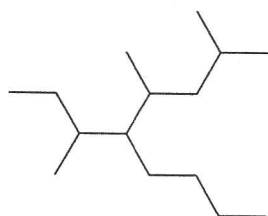
For alkenes and alkynes, the parent chain must include both carbons of alkene.

1. Write IUPAC names for each of the following alkanes.

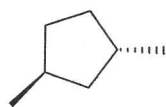
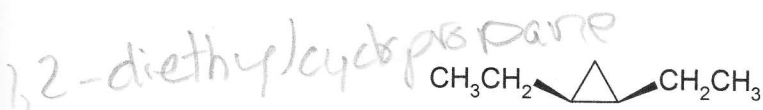


2,3-dimethyl-
4-tert-butyl
heptane

3,5,7-trimethyl-
4-butyl-octane



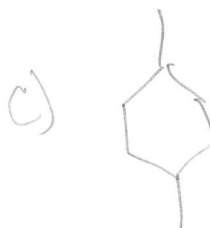
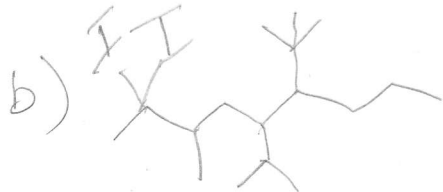
4-isopropyl-
5-tert-butyl-octane



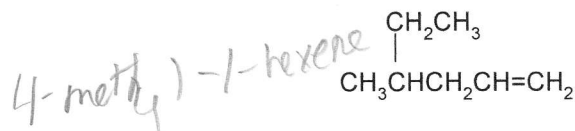
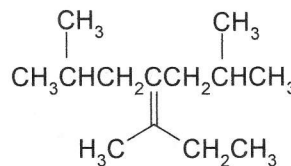
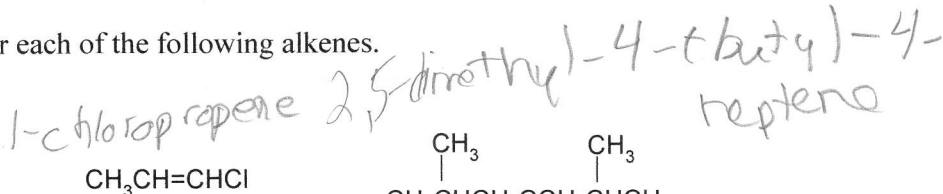
1,3-dimethyl
cyclopentane

2. Draw structures for each of the following alkanes.

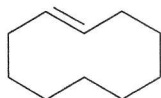
- 1-bromo-1-chloro-2-methylpropane
- 5-isopropyl-6-tert-butyl-2,2-diiodo-3-methylnonane
- trans*-1,4-dimethylcyclohexane
- cis*-1-ethyl-2-methylcyclopentane



3. Write IUPAC names for each of the following alkenes.

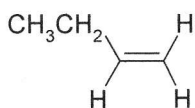


cyclodecene

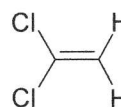
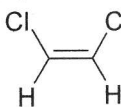


cyclohexene

1-butene

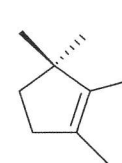
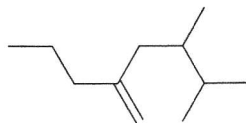
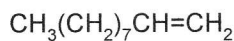


cis-1,2-dichloroethene




1,1-dichloroethene

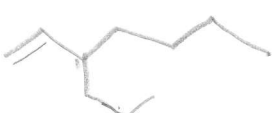
1-decene

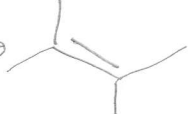



1,2,3,3-tetramethylcyclopentene


4. Draw structures for each of the following alkenes.

a) 4-methyl-2-pentene 

b) 3-propyl-1-heptene 

c) 2,3-dimethyl-2-butene 

d) 3-ethylcyclobutane 

e) 2-methyl-1,3-butadiene 

f) (Z)-3-propyl-2-heptene

g) (E)-1-bromo-2-isopropyl-1,3-butadiene

BC

