NAME: HONORS CHEMISTRY

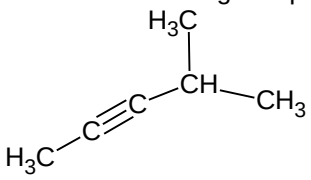
SECTION: Alkynes and Cycloalkanes

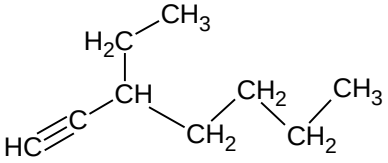
Alkynes

The suffix "-yne" indicates that the compound contains a carbon-carbon triple bond! As with alkenes, base the name on the longest continuous chain that contains the triple bond, and give the triple bond the lowest number possible. It turns out that the carbon-carbon triple bond is linear; sometimes it is clearer to represent all the carbon and hydrogen atoms, as shown here.

1. Draw structures for the following compounds.
   4-ethyl-4-methyl-2-hexyne
   3,4,4-trimethyl-1-heptyne

2. Name the following compounds.





Cycloalkanes

Cycloalkanes have rings of carbon atoms, as indicated by the "cyclo-" prefix. The number of carbons in the ring is indicated by the alkane name. Start counting at a substituted ring atom. Remember to number the substituents so that the name gives the lowest set of numbers for the locations. Cyclic alkenes are also possible, but cyclic alkynes require a minimum 10-carbon ring!

3. Draw structures for the following compounds.

   1-methyl-2-propylcyclobutane
   1,2,4-trimethylcycloheptane

4. Name the following compounds.