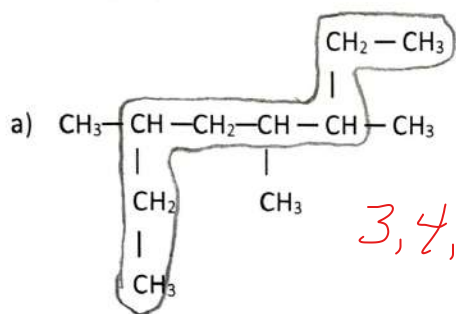
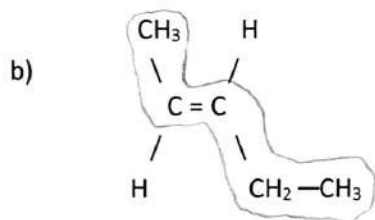


Use IUPAC naming rules to name the following hydrocarbon compounds:

1



3,4,6-trimethyloctane



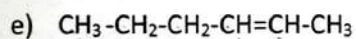
2-pentene



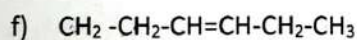
cyclobutane



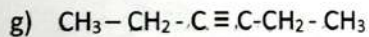
propyne



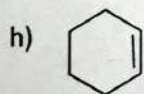
2-hexene



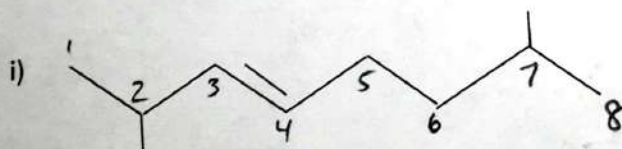
3-hexene



3-hexyne



cyclohexene

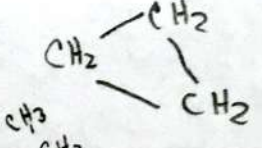
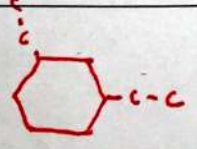
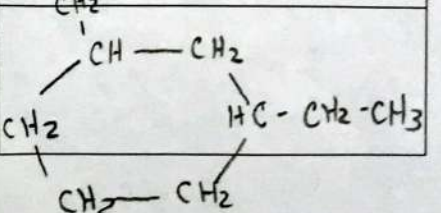


2,7-dimethyl-3-octene

2

Draw the skeleton and structural formula for each below:

Condensed

IUPAC Name	Carbons only	Structural formula (you may draw it how you like, but it must include hydrogens)
butane	$C - C - C - C$	$CH_3 - CH_2 - CH_2 - CH_3$
2-methylhexane	$C - \overset{\overset{C}{ }}{C} - C - C - C - C$	$CH_3 - \overset{\overset{CH_3}{ }}{CH} - CH_2 - CH_2 - CH_2 - CH_3$
3-ethyl-2-methylnonane	$C - C - \overset{\overset{C}{ }}{C} - C - C - C - C - C - C$	$CH_3 - \overset{\overset{CH_3}{ }}{CH} - \overset{\overset{CH_2}{ }}{CH} - CH_2 - CH_2 - CH_2 - CH_2 - CH_2 - CH_3$
propene	$C = C - C$	$CH_2 = CH - CH_3$
4-methyl-2-heptene	$C - C = C - \overset{\overset{C}{ }}{C} - C - C - C$	$CH_3 - CH = CH - \overset{\overset{CH_3}{ }}{CH} - CH_2 - CH_2 - CH_3$
ethyne	$C \equiv C$	$CH \equiv CH$
5,6-dimethyl-2-octyne	$C - C \equiv C - C - \overset{\overset{C}{ }}{C} - \overset{\overset{C}{ }}{C} - C - C$	$CH_3 - C \equiv C - CH_2 - \overset{\overset{CH_3}{ }}{CH} - \overset{\overset{CH_3}{ }}{CH} - CH_2 - CH_3$
cyclopropane		
1,3-diethylcyclohexane		

3

EXTRA PRACTICE!!!! (IF YOU NEED IT)

STRUCTURE OF HYDROCARBONS

Draw the structure of the compounds below.

1. ethane $\begin{array}{c} \text{H} \quad \text{H} \\ \quad \\ \text{H} - \text{C} - \text{C} - \text{H} \\ \quad \\ \text{H} \quad \text{H} \end{array}$	5. ethyne $\text{H} - \text{C} \equiv \text{C} - \text{H}$
2. propene $\begin{array}{c} \text{H} \quad \text{H} \quad \text{H} \\ \quad \quad \\ \text{H} - \text{C} - \text{C} = \text{C} - \text{H} \\ \\ \text{H} \end{array}$	6. 3,3-dimethyl pentane $\begin{array}{c} \text{H} \quad \text{H} \quad \text{H} \quad \text{H} \quad \text{H} \\ \quad \quad \quad \quad \\ \text{H} - \text{C} - \text{C} - \text{C} - \text{C} - \text{C} - \text{H} \\ \quad \quad \quad \quad \\ \text{H} \quad \text{H} \quad \text{H} - \text{C} - \text{H} \quad \text{H} \quad \text{H} \\ \\ \text{H} \end{array}$
3. 2-butene $\begin{array}{c} \text{H} \quad \text{H} \quad \text{H} \quad \text{H} \\ \quad \quad \quad \\ \text{H} - \text{C} - \text{C} = \text{C} - \text{C} - \text{H} \\ \quad \quad \quad \\ \text{H} \quad \quad \quad \text{H} \end{array}$	7. 2,3-dimethyl pentane $\begin{array}{c} \text{H} \quad \text{H} \quad \text{H} \quad \text{H} \quad \text{H} \\ \quad \quad \quad \quad \\ \text{H} - \text{C} - \text{C} - \text{C} - \text{C} - \text{C} - \text{H} \\ \quad \quad \quad \quad \\ \text{H} \quad \text{H} \quad \text{H} - \text{C} - \text{H} \quad \text{H} \quad \text{H} \\ \\ \text{H} \end{array}$
4. methane $\begin{array}{c} \text{H} \\ \\ \text{H} - \text{C} - \text{H} \\ \\ \text{H} \end{array}$	8. n-butyne $\begin{array}{c} \text{H} \quad \text{H} \quad \text{H} \\ \quad \quad \\ \text{C} \equiv \text{C} - \text{C} - \text{C} - \text{H} \\ \quad \\ \text{H} \quad \text{H} \end{array}$

refers to the "end" carbon.

Same as 1-butyne

4

NAMING HYDROCARBONS

Name the compounds below according to the IUPAC naming system

1. <pre> H H H H - C - C - C - H H H H </pre> <i>propane</i>	5. <pre> H H H H - C - C - C - H H H H - C - H H </pre> <i>butane</i>
2. <pre> H H H H H - C = C - C - C - H H H </pre> <i>1-butene</i>	6. <pre> H CH₃ H H - C - C - C - H H H H </pre> <i>2-methyl propane</i>
3. <pre> H H - C ≡ C - C - H H </pre> <i>propyne</i>	7. <pre> H H H H H H - C - C = C - C - C - H H H </pre> <i>2-pentene</i>
4. <pre> H H H CH₃ H H - C - C - C - C - C - H H H H H H </pre> <i>2-methyl pentane</i>	8. <pre> H H H H H H H - C - C - C - C - C - H H H H C H H H C - H H </pre> <i>3,3-diethyl pentane</i>