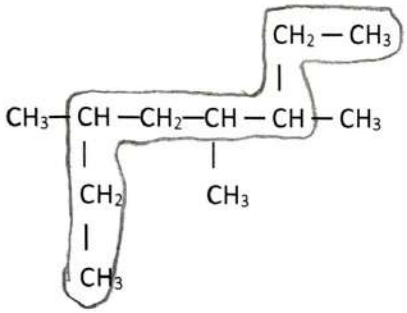
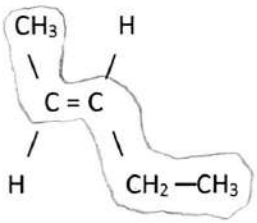
Use IUPAC naming rules to name the following hydrocarbon compounds:

(1)

a) 

3,4,6 trimethyl octane

b) 

trans 2-pentene

c) 

cyclobutane

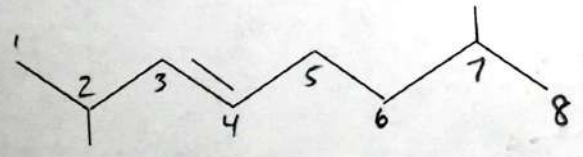
d) $CH \equiv C-CH_3$ ethyne

e) $CH_3\text{-}CH_2\text{-}CH_2\text{-}CH{=}CH\text{-}CH_3$ 2-hexene

f) $CH_2\text{-}CH_2\text{-}CH{=}CH\text{-}CH_2\text{-}CH_3$ 3-hexene

g) $CH_3-CH_2\text{-}C\equiv C\text{-}CH_2\text{-}CH_3$ 3-hexyne

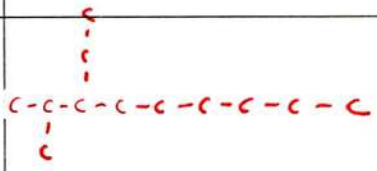
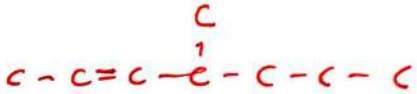
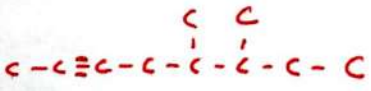
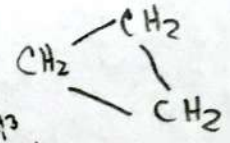
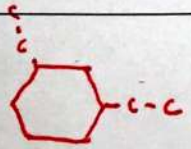
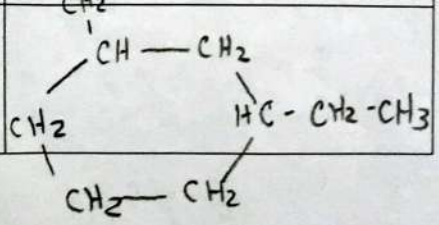
h)  cyclohexene

i) 

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		$CH_3-CH_2-CH_2-CH_3$
2-methylhexane		$CH_3-CH(CH_3)-CH_2-CH_2-CH_2-CH_3$
3-ethyl-2-methylnonane		$CH_3-CH(CH_3)-CH(CH_2CH_3)-CH_2-CH_2-CH_2-CH_2-CH_2-CH_3$
propene		$CH_2=CH-CH_3$
4-methyl-2-heptene		$CH_3-CH=CH-CH(CH_3)-CH_2-CH_2-CH_3$
ethyne		$CH\equiv CH$
5,6-dimethyl-2-octyne		$CH_3-C\equiv C-CH_2-CH(CH_3)-CH(CH_3)-CH_2-CH_3$
cyclopropane		
1,3-diethylcyclohexane		

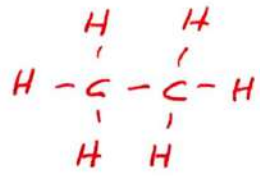
3

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

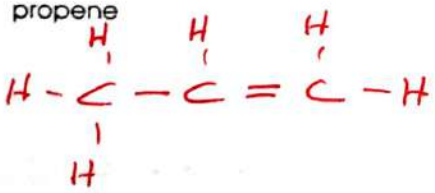
STRUCTURE OF HYDROCARBONS

Draw the structure of the compounds below.

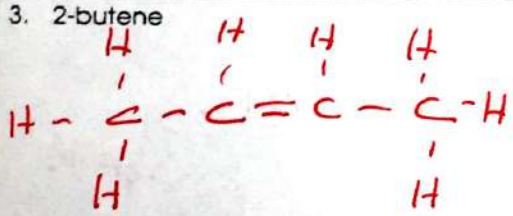
1. ethane



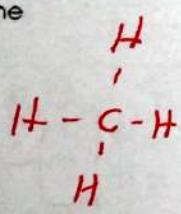
2. propene



3. 2-butene

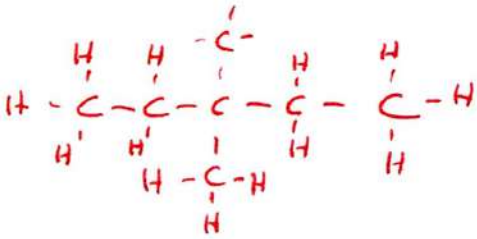


4. methane

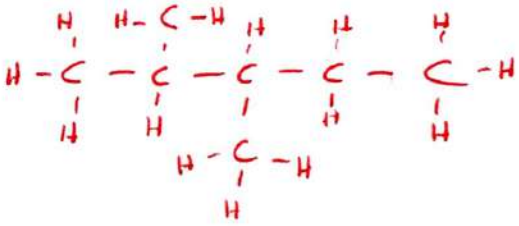


5. ethyne

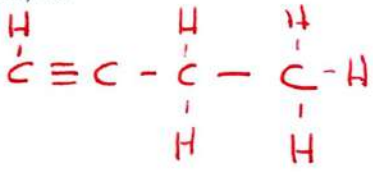
6. 3, 3-dimethyl pentane



7. 2, 3-dimethyl pentane



8. n-butyne



refers to the "end" carbon

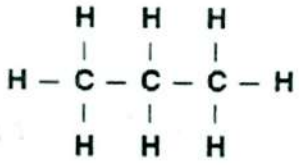
Same as 1-butyne

(4)

NAMING HYDROCARBONS

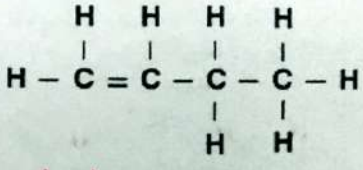
Name the compounds below according to the IUPAC naming system

1.



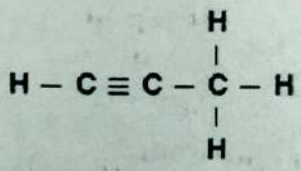
propane

2.



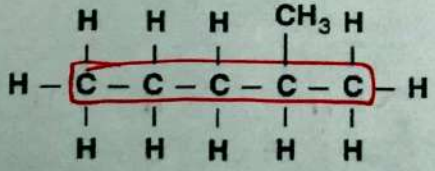
1-butene

3.



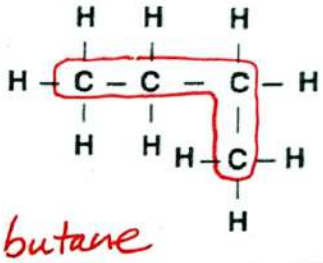
propyne

4.



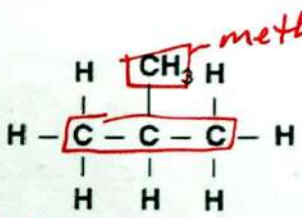
2-methylpentane

5.



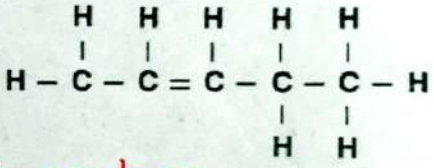
butane

6.



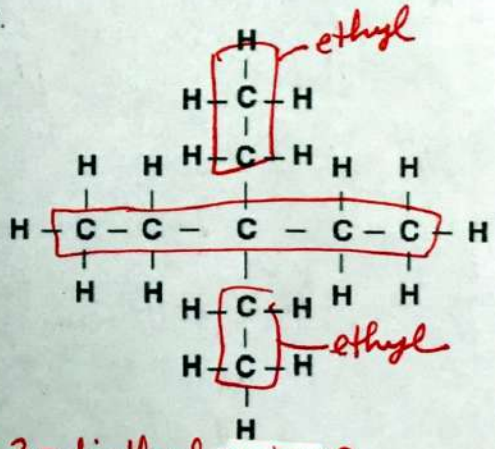
2-methylpropane

7.



2-pentene

8.



3,3-diethylpentane