

9/20/18 MDC Notes

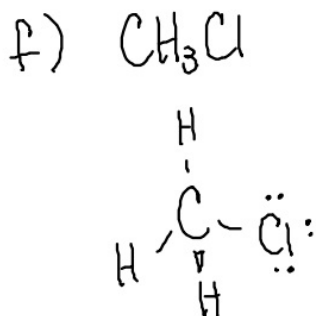
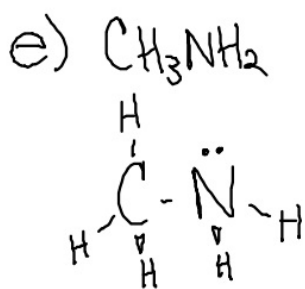
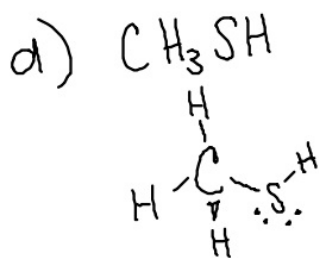
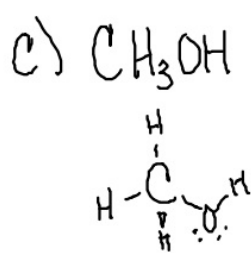
Homework:

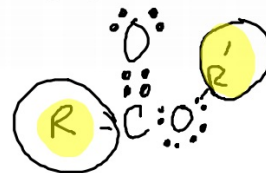
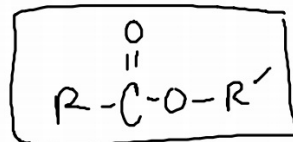
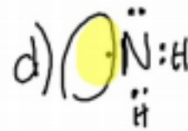
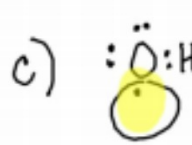
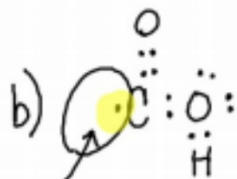
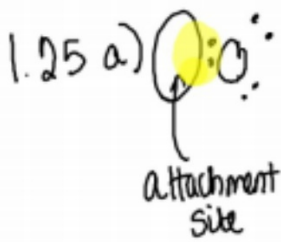
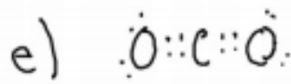
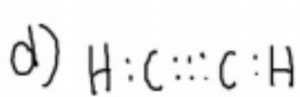
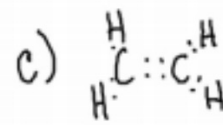
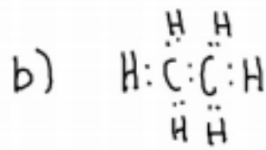
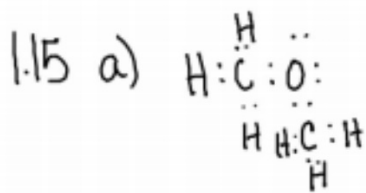
1.7 No, they have identical chemical formulas

1.10 C = 4 H = 1 O = 2 N = 3

1.12 a) 4 $\cdot\dot{\text{C}}\cdot$ b) 6 $\cdot\ddot{\text{O}}\cdot$ c) 5 $\cdot\ddot{\text{N}}\cdot$ d) 7 $\cdot\ddot{\text{F}}\cdot$

1.14 a) H_2O_2 $\begin{array}{c} \ddot{\text{O}}-\ddot{\text{O}} \\ | \quad | \\ \text{H} \quad \text{H} \end{array}$ b) N_2H_4 $\begin{array}{c} \ddot{\text{N}}-\ddot{\text{N}} \\ | \quad | \\ \text{H} \quad \text{H} \end{array}$





Common Branches

$-\text{CH}_3$
methyl

$-\text{CH}_2\text{CH}_3$
ethyl

$-\text{CH}_2\text{CH}_2\text{CH}_3$
propyl

$\text{CH}_3\text{CH}(\text{CH}_3)$
isopropyl

$\begin{array}{c} \text{C}-\text{C} \\ | \\ \text{C} \end{array}$
cyclopropyl

$-\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$
butyl

$\begin{array}{c} \text{C}-\text{C}-\text{C} \\ | \\ \text{C} \end{array}$
secbutyl

$\begin{array}{c} \text{C}-\text{C}-\text{C} \\ | \\ \text{C} \end{array}$
isobutyl

$\begin{array}{c} \text{C} \\ | \\ \text{C}-\text{C}-\text{C} \\ | \\ \text{C} \end{array}$
t-butyl
tert butyl

$\begin{array}{c} \text{C}-\text{C} \\ | \quad | \\ \text{C}-\text{C} \end{array}$
cyclobutyl

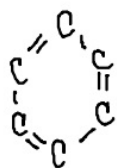
Naming/Classifying Organic Compounds

aliphatic - carbon are in a continuous straight chain

alicyclic - carbon are in a ring formation

heterocyclic - at least one element other than carbon in the ring formation

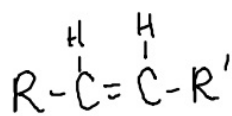
aromatic - "sweet smell" - must contain benzene C_6H_6
(argl)



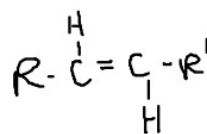
due to the resonance we often illustrate benzene as



Double Bond



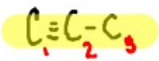
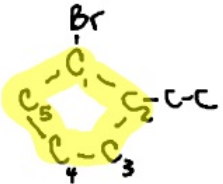
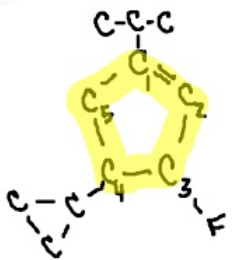
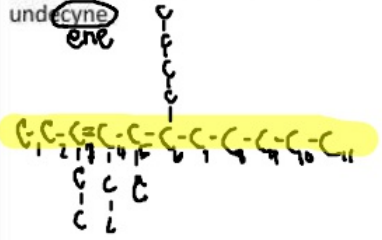
cis-



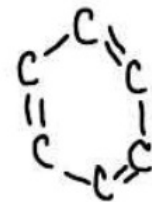
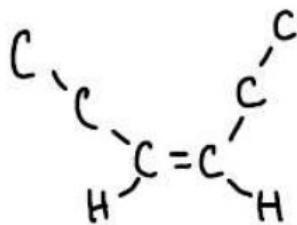
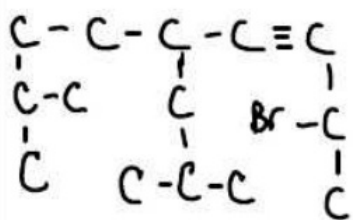
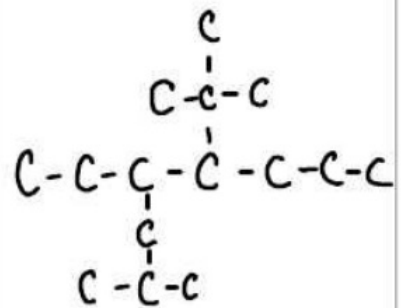
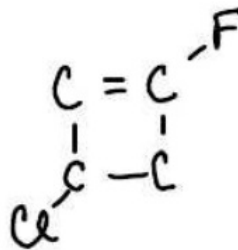
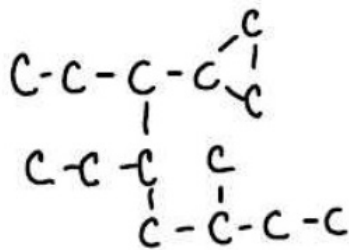
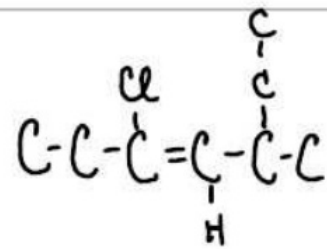
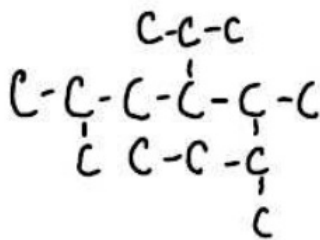
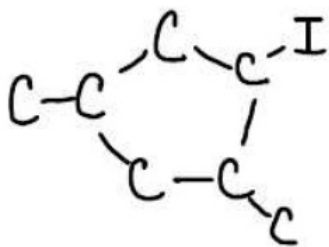
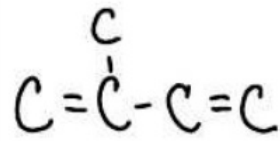
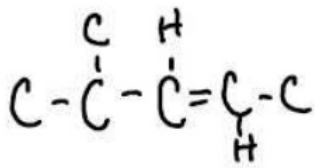
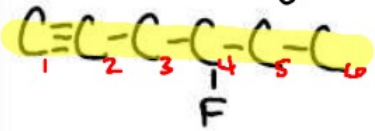
trans-

Name: _____ Block: ____ Date: _____

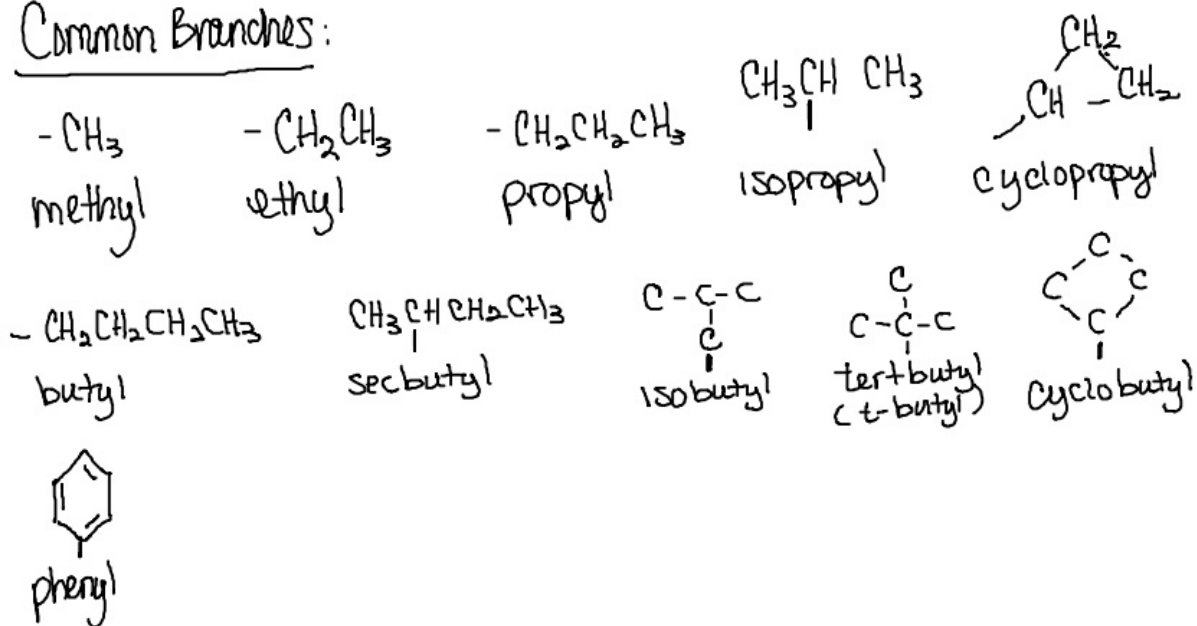
Illustration and nomenclature Practice

<p>1-propyne ✓</p> 	<p>4-ethyl-2-methylheptane</p>	<p>1-bromo-cyclobutane</p>
<p>1-bromo-2-ethylcyclopentane ✓</p> 	<p>2-chloro-3-methylbutane</p>	<p>2-bromo-3,4-dimethylheptane</p>
<p>3-fluoro-4-cyclopropyl-1-isopropyl-1-cyclopentene ✓</p> 	<p>2-bromo-1-fluoro-3-pentylcyclopentane</p>	<p>3,4,4-trimethyl-1-pentyne</p>
<p>cis-3,4-diethyl-6-butyl-5-methyl-3-undecyne ✓</p> 	<p>2,4,6-trimethyl-3,5-dipropylheptane</p>	<p>4-t-butyl-2-nonyne</p>

4-fluorohexyne



Common Branches:



Classifying Organic Compounds

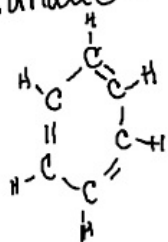
-ane -ene -yne

Aliphatic - Carbon are in a continuous straight chain

Alicyclic - carbon are in a ring formation

Heterocyclic - ring contains at least one non-carbon element

Aromatic - must contain benzene (C_6H_6) "sweet smell"

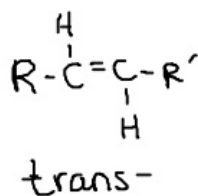
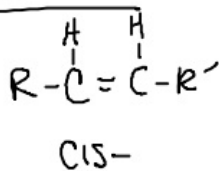


this structure has resonance



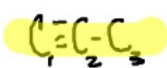
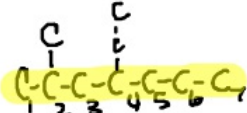
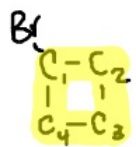
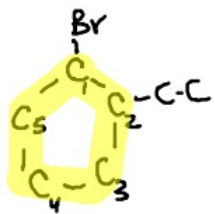
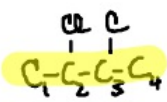
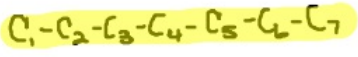
when benzene is a branch it is classified as -aryl

Double Bonds



Name: _____ Block: _____ Date: _____

Illustration and nomenclature Practice

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<p>1-bromo-2-ethylcyclopentane</p> 	<p>2-chloro-3-methylbutane</p> 	<p>2-bromo-3,4-dimethylheptane</p> 
<p>3-fluoro-4-cyclopropyl-1-isopropyl-1-cyclopentene</p>	<p>2-bromo-1-fluoro-3-pentylcyclopentane</p>	<p>3,4,4-trimethyl-1-pentyne</p>
<p>3,4-diethyl-6-butyl-5-methyl-3-undecyne</p>	<p>2,4,6-trimethyl-3,5-dipropylheptane</p>	<p>4-t-butyl-2-nonyne</p>

