

Name: _____

Date: _____

[4 pt] 1. Complete the following table:

Property	Alkenes	Alkynes
Functional Group		
Naming "ending"		
Location (Y/N)		
IMF Present		

[4 pt] 2. Define the term Geometric Isomer (cis-trans isomer). What are the **TWO** requirements for a molecule to be capable of having cis-trans isomers?

[5 pt] 3. Which of the following molecules have structural formulas that permit cis-trans isomers to exist (Yes/No). Explain your answers.

(a) $\text{CCl}_2=\text{CBr}_2$ 3(a) _____

(b) $\text{CH}_3\text{CH}=\text{CHCl}$ 3(b) _____

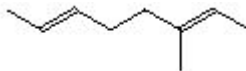
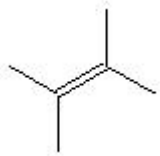
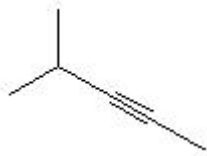
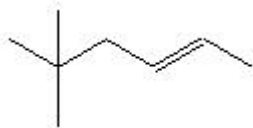
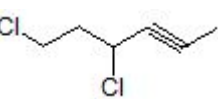
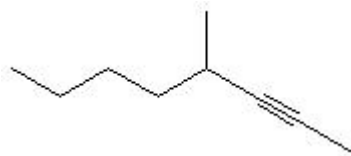
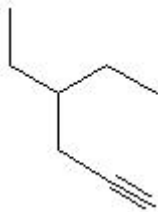
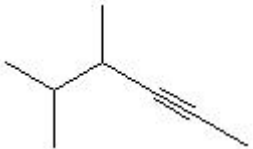
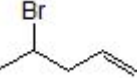
(c) $\text{CH}_2=\text{CHCl}$ 3(c) _____

(d) $\text{CH}_3\text{CH}_2\text{C}\equiv\text{CCH}_3$ 3(d) _____

(e) $(\text{CH}_3)_2\text{C}=\text{CHCH}_3$ 3(e) _____

CHE 102 - Homework - Ch 20b

[20 pt] 4. Name the following molecules using IUPAC nomenclature:

<p>(a) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}=\text{CHCH}_3$</p>	<p>(b) </p>
<p>(c) </p>	<p>(d) </p>
<p>(e) </p>	<p>(f) </p>
<p>(g) </p>	<p>(h) </p>
<p>(i) </p>	<p>(j) </p>

CHE 102 - Homework - Ch 20b

[20 pt] 5. Draw the following molecules using Lewis Structure or Line Drawings:

(a) 2-chloro-cis-3-octene	(b) 4-methyl-1-heptyne
(c) 4-ethyl-2-hexyne	(d) trans-6-methyl-3-heptene
(e) cis-1,3-hexadiene	(f) 3-bromo-4-methyl-2-hexene
(g) trans-2-pentene	(h) 2-bromopentane
(i) 3-methyl-2-pentene	(j) 3-ethyl-5,5-dimethyl-2-hexene

CHE 102 - Homework - Ch 20b

[7 pt] 6. Name **AND** draw all the isomers of hexyne (7 total)