MINISTRY OF EDUCATION

SECONDARY ENGAGEMENT PROGRAMME

GRADE 11

CHEMISTRY

WEEK 4 **LESSON 1 – WORKSHEET**

SECTION A

Circles the correct answer for items 1-5.

1. What makes carbon such a unique element?

   (a) Elemental carbon comes in two forms, diamond and graphite.

   (b) Carbon forms four bonds, although the ground state configuration would predict the formation of fewer bonds.

   (c) Carbon forms covalent bonds rather than ionic bonds.

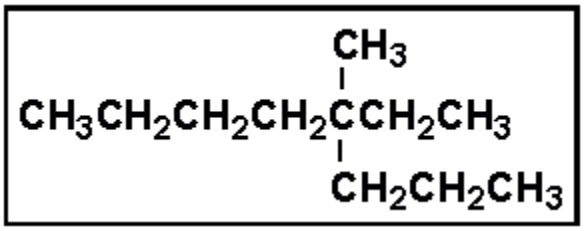
   (d) To a greater extent than any other element, carbon can bond to itself to form straight chains, branched chains and rings.

   (e) Carbon has two stable isotopes, carbon-12 and carbon-13.

2. A molecule with the formula C_3H_8 is a(n):

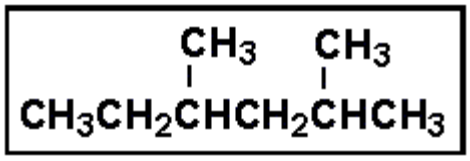
   (a) hexane
   (b) propane
   (c) decane
   (d) butane
   (e) ethane

3. Select the correct IUPAC name for:



(a) 5-methyl-5-ethyloctane
(b) 5-methyl-5-propylheptane
(c) 4-ethyl-4-methyloctane
(d) 3-methyl-3-propyloctane
(e) 3-methyl-3-propylheptane

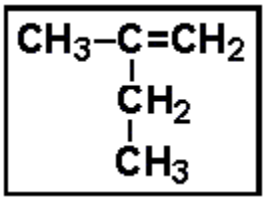
4. Select the correct IUPAC name for:



(a) 1,1,3-trimethylpentane
(b) 1-ethyl-1,3-dimethylbutane
(c) 2,4-dimethylhexane
(d) 3,5-dimethylhexane
(e) 3,5,5-trimethylpentane

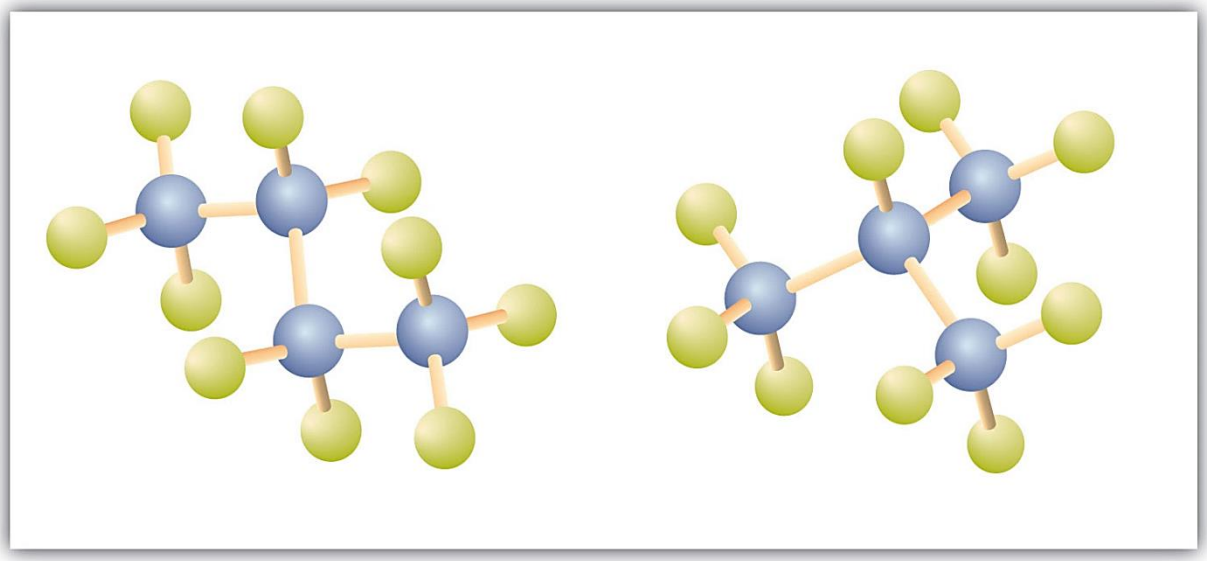
5. The general formula for noncyclic alkenes is:
(a) C_nH_{2n+2}
(b) C_nH_{2n}
(c) C_nH_{2n-2}
(d) C_nH_{n+2}
(e) C_nH_n

6. The correct name for the compound given below is:



(a) 2-methyl-1-butene
(b) 2-ethyl-1-propene
(c) 2-ethyl-1-pentane
(d) 3-methyl-2-butene
(e) pentene

SECTION B



h. $CH_3-\underset{\displaystyle CH_2-CH_3}{\overset{\displaystyle |}{C}}=CH-CH_3$

i. $CH_3-\underset{\displaystyle CH_3}{\overset{\displaystyle |}{CH}}-CH=CH_2$

j. $CH_3-CH=CH-\underset{\displaystyle CH_2-CH_3}{\overset{\displaystyle CH_2-CH_3}{\overset{\displaystyle |}{\overset{\displaystyle |}{C}}}}-CH_2-CH_3$

MINISTRY OF EDUCATION

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CHEMISTRY

WEEK 4 **LESSON 1 – ANSWERS**

SECTION A

1. What makes carbon such a unique element?

   (a) Elemental carbon comes in two forms, diamond and graphite.

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   (c) Carbon forms covalent bonds rather than ionic bonds.

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   (a) hexane
   (b) **propane**
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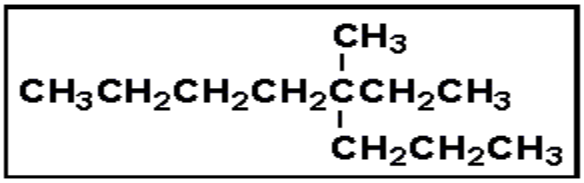
   (d) butane
   (e) ethane

3. Select the correct IUPAC name for:



(a) 5-methyl-5-ethyloctane
(b) 5-methyl-5-propylheptane
(c) **4-ethyl-4-methyloctane**
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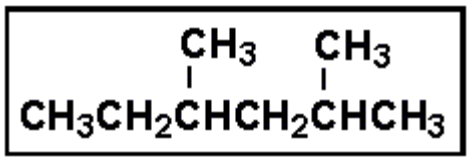
4. Select the correct IUPAC name for:



(a) 1,1,3-trimethylpentane
(b) 1-ethyl-1,3-dimethylbutane
(c) **2,4-dimethylhexane**
(d) 3,5-dimethylhexane
(e) 3,5,5-trimethylpentane

5. The general formula for noncyclic alkenes is:
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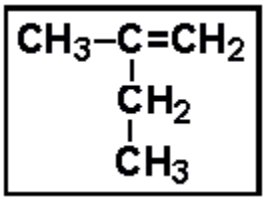
6. The correct name for the compound given below is:



(a) **2-methyl-1-butene**
(b) 2-ethyl-1-propene
(c) 2-ethyl-1-pentane
(d) 3-methyl-2-butene
(e) pentene

SECTION B

a. $CH_3-CH_2-CH=CH_2$ — 1-butene

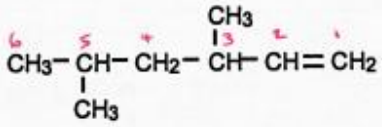
b. $CH_3-CH=CH-CH_3$ — 2-butene

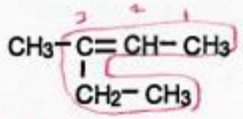
c. $CH_3-CH_2-CH=CH-CH_3$ — 2-pentene

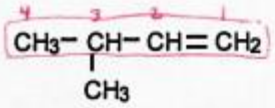
d. $CH_3-CH_2-CH=CH-CH_2-CH_3$ — 3-hexene

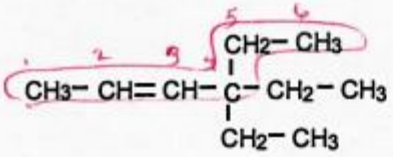
e. $CH_2=CH_2$ — ethene

f. $CH_3-CH=CH_2$ — propene

g.  — 3,5-dimethyl-1-hexene

h.  — 3-methyl-2-pentene

i.  — 3-methyl-1-butene

j.  — 4,4-diethyl-2-hexene