South Pasadena • Chemistry

Name_____
Period _____ Date ___/___/___

1 • What Do Chemists See When They Look At Chemicals?

PRACTICE TEST

1. A molecule named propene has the formula:
   a) C_2H_2
   b) C_3H_6
   c) C_4H_3
   d) C_3H_8
   e) C_3H_4

2. What is the name of a molecule with the formula, C_5H_8?
   a) pentane
   b) hexene
   c) butyne
   d) butene
   e) pentyne

3. A molecule that fits the pattern, C_nH_{2n+2}, is a(n)
   a) alkane
   b) alkene
   c) cyclic compound
   d) alkyne
   e) need more info

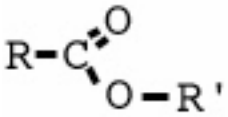
4. The general formula of the alkyne series is:
   a) C_nH_{2n}
   b) C_nH_{2n-4}
   c) C_nH_{2n-2}
   d) C_nH_{2n-6}

5. The hydrocarbon series that has a double bond between carbon atoms is the
   a) alkane family
   b) alkene family
   c) alkyne family
   d) alkadiene family

6. Organic chemistry is the branch of chemistry that is the study of
   a) carbon compounds
   b) nonmetals
   c) once-living things
   d) compounds produced by living things

7. The properties of carboxylic acids include all of the following ***except***:
   a) they can be neutralized by bases
   b) the molecule has some polarity
   c) they ionize completely in water solution
   d) they react with alcohols to form esters

8. The compound



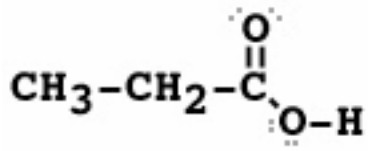
   is classified as a
   a) alcohol
   b) ester
   c) acid
   d) ketone
   e) aldehyde

9. An amine is characterized by what functional group?
   a) ROH
   b) RCO_2H
   c) RCO_2R'
   d) RNH_2

10. Compounds with the same molecular formulas but different structural formulas are called
    a) isotopes
    b) variations
    c) conformations
    d) anomalies
    e) isomers

11. The least chemically reactive of the hydrocarbon families are the
    a) alkanes
    b) alkenes
    c) alkynes

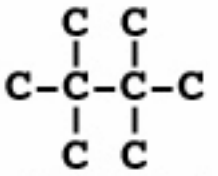
12. The compound represented by



is a(n)

a) acid
b) ester
c) ketone
d) aldehyde
e) amide

13. Draw the structural formula of 3,5-dimethyl-3-ethyloctane

14. The IUPAC name of  is:

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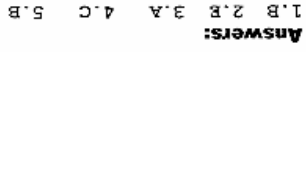
15. Draw and name the three isomers of pentane.

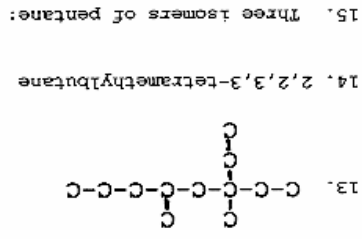
Answers:

1.B 2.E 3.A 4.C 5.B 6.A
7.C 8.B 9.D 10.E 11.A 12.A

13. 

14. 2,2,3,3-tetramethylbutane

15. Three isomers of pentane:



n-pentane

2-methylbutane

2,2-dimethylpropane