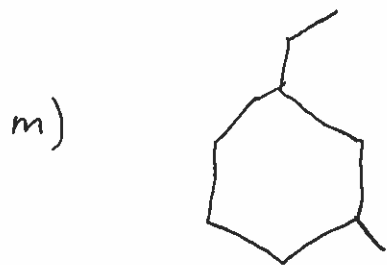
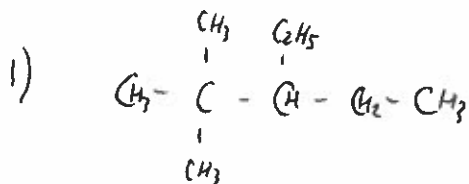
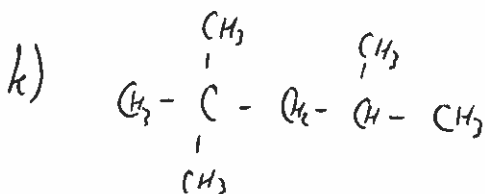
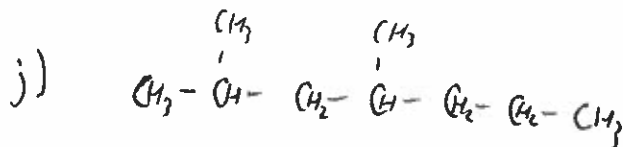
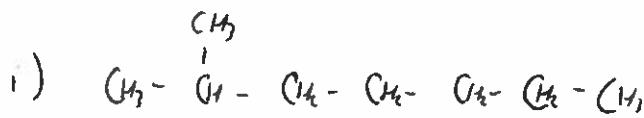
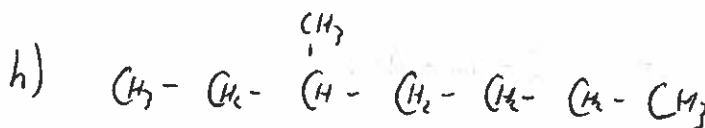
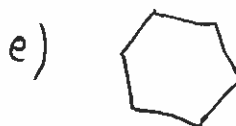
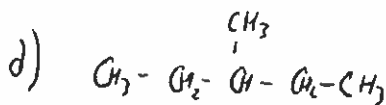
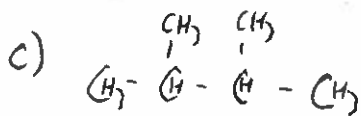
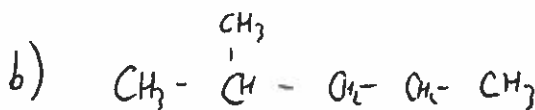
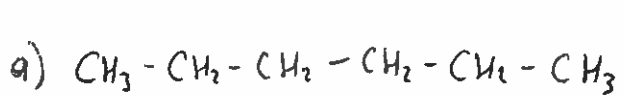


Alkanes and Isomers Practice Sheet

1. Draw the following compounds:

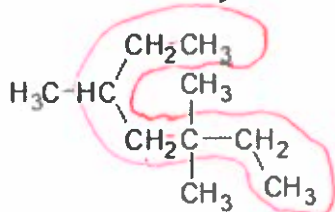
- a) hexane                      b) 2-methylpentane      c) 2,3-dimethylbutane                      d) 3-methylpentane  
 e) cyclohexane                  f) cyclopentane              g) methylcyclobutane                      h) 3-methylheptane  
 i) 2-methylheptane      j) 2,4-dimethylheptane              k) 2,2,4-trimethylpentane  
 l) 3-ethyl-2,2-dimethylpentane              m) 1-ethyl-3-methylcyclohexane



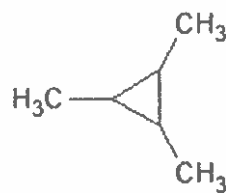
2. Draw and name three structural isomers of 2,4-dimethylheptane (this was (j) from question 1).

4. Name the following compounds:

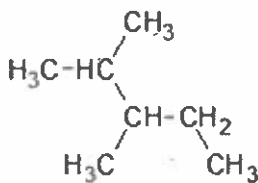
a) 3,3,5-trimethylheptane



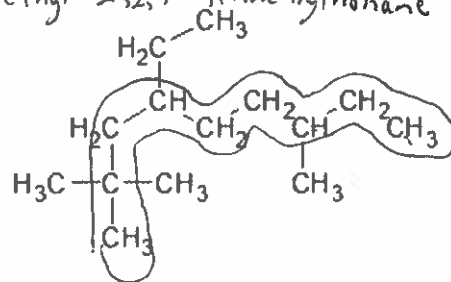
b) 1,2,3-trimethylcyclopropane



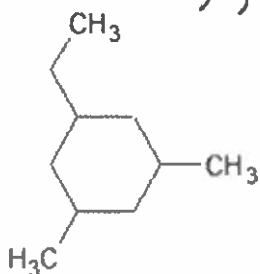
c) 2,3-dimethylpentane



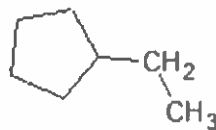
d) 4-ethyl-2,2,7-trimethylnonane



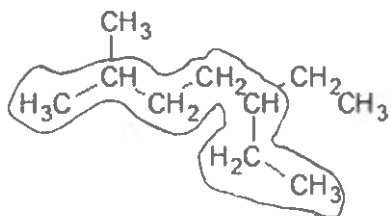
e) 1-ethyl-3,5-dimethylcyclohexane



f) ethylcyclopentane



g) 5-ethyl-2-methylheptane



h) cyclobutane



5. Write the correct IUPAC name for the following compounds:

a) 1-methylpropane    b) 4-methylpentane    c) 2-propylhexane    d) 5,6-dimethylheptane

butane

2-methylpentane

4-methylhexane

2,3-dimethylheptane

6) In the family of alkanes, what happens to both melting and boiling points as the number of carbon atoms increases? Explain the reason for your answer.

m.p. and b.p. increase as carbon atoms increase b/c

larger molecules have higher I.M. forces