Test 1 Answers 1998

Question 1

[Diagram: CO2 and its resonance structures]

= [Diagram: Carbon dioxide structure]

Question 2

[Structures: Cyclic structures, O, HO, HO, ketone, hydroxyalkanes, aldehydes]


Question 3

Highest Boiling -- Largest Surface Area

Lowest Boiling -- Least Surface Area

Question 4
Question 5

a) Cl

b) (1 Cl on any carbon)

c) Cl

d)
From the isomer count, it can be seen that only benzene and prismane yield one mono-chloro structure. This would differentiate benzene and prismane from benzvalene, Dewar benzene, and the bis-cyclopropene. Prismane and benzene also both yield three di-chloro benzenes. However, one of the prismane di-chloro isomers is chiral and yields enatiomers.

For full credit - you only had to recognize that the isomer count is solved by seeing how many different isomers could be produced.