Name: _____

1. (1 pt.)

   - **Read all material carefully.**
   - You may refer to your books, papers, and notes during this test.
   - Write, and draw, carefully. Ambiguous or cryptic answers receive zero credit.
   - Use the conventions used in class and the textbook for notation, algorithmic options, etc.

   Write your name and group ID (e.g., C3) in the space provided above. The group is for reference only; all work on this quiz is individual work.

2. (9 pts.) Depict (using the usual graphical representation) the binary search tree resulting from the insertion of the following keys, in the order presented, into an initially empty tree. Depict the final tree only.

$$98, 57, 59, 84, 34, 54, 70, 73, 53, 10$$

3. (5 pts.) Represent the tree of Question 2 using the *linear notation* described in class.

4. (5 pts.) Depict the binary search tree resulting from the deletion of the following keys (in this order) from the final tree of Question 2.

$$10, 54, 57$$

5. (10 pts.) (1) Provide a list of keys that produce the following binary search tree when they are inserted into an initially empty tree in list order. (2) How many distinct answers are there to part (1)? (3) **Explain** briefly why your answers is correct.