6.4)

a. The left child is $2N$ and right child is $2N+1$, so worst case is $2(2N+1) = O(4N)$

b. Worst case for $2\log N$ is $O(N^2)$

c. Worst case for $4.1\log N$ is $O(N^{4.1})$

d. The worst case will be $O(2^n)$

6.5

```
 8
 9  void insert (const Comparable & x) {
10
11      if (currentSize == array.size() - 1)
12          array.resize(array.size() * 2);
13
14      int hole = ++currentSize;
15      Comparable copy = x;
16      Comparable tmp = x;  // Make a tmp variable
17
18      array[0] = std::move(copy);
19      for (; hole > 1 && x < array[hole / 2]; hole /= 2)  // Making sure that the array at position 0 doesnt get changed
20          array[hole] = array[hole / 2];
21      array[hole] = std::move(array[0]);
22
23      array[0] = std::move(tmp);  // Set the value back to array 0 to store it as a copy
24
25  }
26
```