Data Structures
CSCI C343, Fall 2015
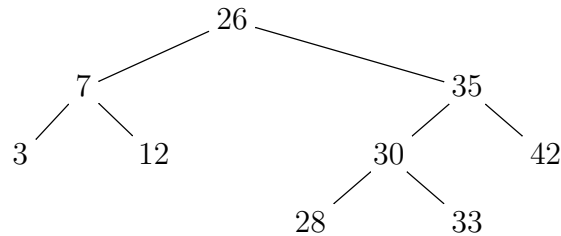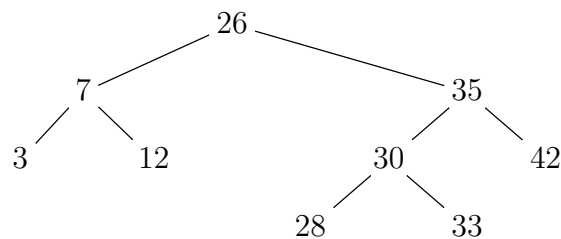
Name: _____

This quiz has 3 questions, for a total of 30 points.

1. 9 points Insert keys 31, 45, and 11 into the following tree.

```
              26
         /          \
        7            35
      /   \        /    \
     3    12     30      42
               /    \
              28     33
```

2. 8 points Answer the following questions about this binary search tree. The integers at each node of the tree are the keys.

```
              26
         /          \
        7            35
      /   \        /    \
     3    12     30      42
               /    \
              28     33
```

   1. What is the successor (the "after") of the node with key 35?

   2. What is the successor (the "after") of the node with key 33?

   3. What is the predecessor (the "before") of the node with key 28?

   4. What is the predecessor (the "before") of the node with key 26?

3. 13 points Balance the following binary search tree so that it satisfies the AVL property. Only use tree rotations to change the tree.