

Key

- (a) The program compiles and executes without error. What is the exact output of the println statement marked in the code with a 1? (3 Points)

7 \* 2 \* 6 \* \* \*

7 \* 2 \* 6 \* 3 \* 2 \* 1 \* \* \*

- (b) The program compiles and executes without error. What is the exact output of the while loop marked in the code with a 2? (3 Points)

3 \* 2 \* 1 \* \* \*

- (c) The program compiles and executes without error. What is the exact output of the println statement marked in the code with a 3? (3 Points)

7 \* 2 \* 6 \* \* \*

- (d) State a pre-condition that should be present in the remove method of the List class. (1 Point)

head != null or LIST NOT empty

- (e) What is the run time complexity of the addAlso() method? (2 Points)

$\Theta(N)$

- (f) We need a public method for the List class that displays the list in reverse order. This method will be called "displayReversed" and is shown below. It will make use of a recursive method called "reverse" with the signature as shown. Complete the recursive method called "reverse". (3 Points)

```
private void reverse(Node p) {
```

```
    IF (p != null) {  
        reverse(p.getNext());  
        SYSTEM.out.print(p);  
    }
```

```
}
```

```
public void displayReversed() {  
    reverse(head);  
}
```