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Question 1:

- a). B.begin()+3
- b). A.end(), greater<int>()
- c). B.end(),greater<int>()
- d). A.end(), B.end()

Question 2:

Yes

Question 3:

10,11,1,3,2,5,  
1,10,11,3,2,5,  
1,3,10,11,2,5,  
1,2,3,10,11,5,  
1,2,3,5,10,11,

Question 4:

10,11,1,3,2,5,  
1,10,11,3,2,5,  
1,10,11,2,3,5,  
1,10,11,2,3,5,  
1,2,3,5,10,11,

Question 5:

1,10,5,3,2,11,  
1,2,3,11,10,5,  
1,2,3,5,10,11,

Question 6:

A).

{28,10,2,27,5,1}

{28,10,2,27,5,1}      {2,10,28,27,5,1}

{28,10,2,27,5,1}      {10,28,2,27,5,1}      {2,10,28,27,5,1}      {2,10,28,5,27,1}

|      \      |      |

{28,10,2,27,5,1} {28,10,2,27,5,1}      {2,10,28,27,5,1} {2,10,28,27,5,1}

B).

{28 10 2 27 5 1}

{1 2 28 27 5 10}      {1 2 28 27 5 10}

{1 2 5 10 27 28}      {1 2 5 10 27 28}

{1 2 5 10 27 28} {1 2 5 10 27 28}

Question 7: Average running time

Insertion sort  $\rightarrow O(n^2)$

Quicksort  $\rightarrow O(n \log(n))$

Question 8:

If  $i+1 = k$  then  $i+1$  is the correct position so no it won't recursively call. Position is found.

Question 9:

(a) what is printed by the following function call: `myRecFunc1(4)`

4, 2, 1, 1, 2, 4,

(b) what is the running time of `myRecFunc1(n)`  $\rightarrow O(\log(n))$

Question 10:

(a) what is printed by the following function call: `myRecFunc2(4)`

4, 2, 1, 1, 2, 1, 1, 4, 2, 1, 1, 2, 1, 1,

b) running time of `mrRecFunc2(int n)`  $\rightarrow O(\log(n))$