Java Unit 9 Practice Test Name-

Period-

Free Response

1. Modify the following Bug class so that it realizes that Comparable interface and compares Bug objects by x location. Your code should be as efficient as possible.

```
public class Bug
{
   private int myX; // location of bug on the x-axis of its coordinate system
   private int myY; // location of bug on the y-axis of its coordinate system
   public Bug(int x, int y)
   {
      myX = x; myY = y;
   }
   public int getX()
   {
      return myX;
   }
   public int getY()
   {
      return myY;
   }
   // answer goes here
```

}

2. Rewrite the compareTo method so that it uses the distance from the (0, 0) origin to compare two Bug objects. If a Bug is farther from the origin, then it would be considered to be "greater" than another Bug. If one Bug is found at (5, 5) and another is at (-5, 5) then they would be considered to be equal. If one Bug is found at (4, 3) and the other at (3, 4) then they would also be considered to be equal.

3. Rewrite the compareTo method so that it uses the myX as the primary test to determine which Bug is greater. Only if both Bug's have the same exact myX value then use myY as the "tiebreaker" to determine which Bug is greater. Only if two Bug's have the same exact myX and myY values would they be considered to be equal.

4. Write a code segment that would be found in a client program that would make use of the Bug compareTo method in #1 above to compare the two objects bug1 and bug2 and then display which one is "greater" than the other. You can assume that both objects have already been declared and instantiated and you can assume that they a different x locations (i.e. they are not "equal");