Comparison between algorithms:

In the best case scenario, Insertion Sort has the lowest time complexity at Θ(n). At the same time it has the worst time complexity in the average case scenario, at Θ(n^2). This means that it is very fast for small arrays, but for big arrays is not an effective sorting algorithm.

Heap Sort is different from the other two sorting algorithms as such that it has a fixed time complexity at Θ(n*logn) for all cases. In some situations having a fixed time complexity can be preferable.

Quicksort is a good algorithm for handling big arrays. Although quicksort has the same time complexity in the average and best case as Heap Sort, it is in reality often faster than Heapsort, as it almost never does swaps that are unneccesary. In an almost sorted array, it does very few swaps. Comparing this to Heap Sort, Heap Sort swaps every element even if it is sorted from the beginning.