

## Activity Sheet 8

**Manager** name:

**Recorder** name:

**Speaker** name:

## Section 5.1

1. Consider the problem of finding the location of the largest element in an unsorted array (if many elements achieve that largest value, return the first of them).
  - a. Write a brute-force algorithm for this problem, and determine its time complexity.
  - b. Write a recursive decrease-by-one-and-conquer algorithm for this problem, and determine its time complexity via a recurrence relation (and optionally using the master theorem, or solving directly).

- c. Write a divide-and-conquer algorithm for this problem, and determine its time complexity via a recurrence relation and using the master theorem.