a) The algorithm checks for equivalent items in lists i & j by comparing.

b) The time of the algorithm is dependant on the number of items in the list, therefore incrementing by a power would make the time required to perform the task escalate exponentially almost.

c) Because we are only looking for 1 item to be equivalent so after the first 'scan' we can cut the list at the cost of not being able to find all possible items, if they were to be cut.

d) The items to compare would be about half thus reducing the processing time since it has a strong link with the numbers of items on the list.

e) Yes, the time complexity would still be quadratic. i.e. $\frac{1}{2} \times (n^2)$.

an estimation

i) It would be because with a slower version, we would be able to get all of the answers