

Review Questions for Reading #5

1. What is a *recurrence*?

Note: This is something that you ideally learned about in MATH 271!

2. How (or why) are recurrences useful, when you are trying to bound the number of steps executed by a given recursive algorithm on a given input?

3. Describe a (reasonably simple) process that can sometimes be used to discover the value of a recurrence being used to express the running time of a recursive algorithm.

4. Name (or describe) a **proof technique** this is useful for proving that given recurrence has a given “guessed” solution (or upper bound).

Note: Once again, this is something that you should **definitely** have learned about in MATH 271!

5. Describe a mistake that students sometimes make when they are asked to give **recurrences** for the running times of recursive algorithms.