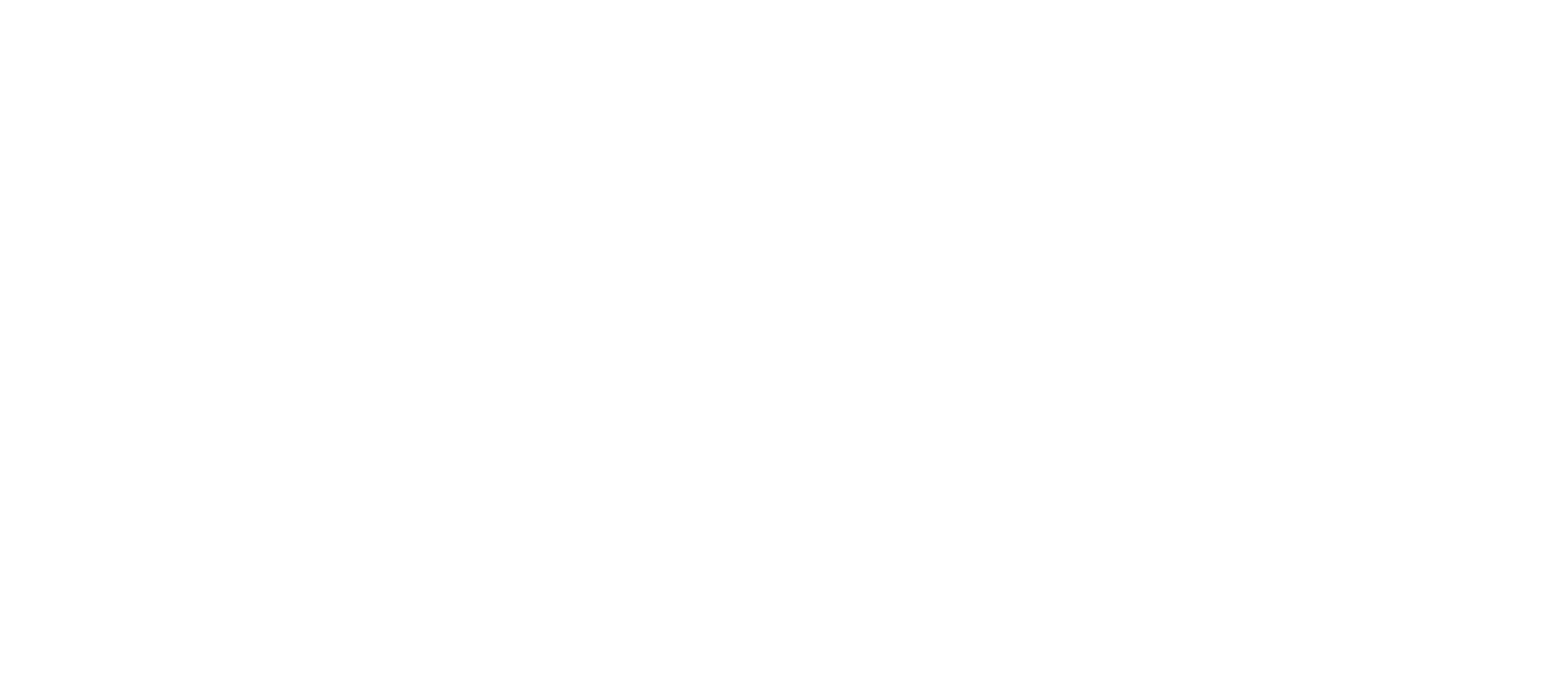
**Recursion Trees**

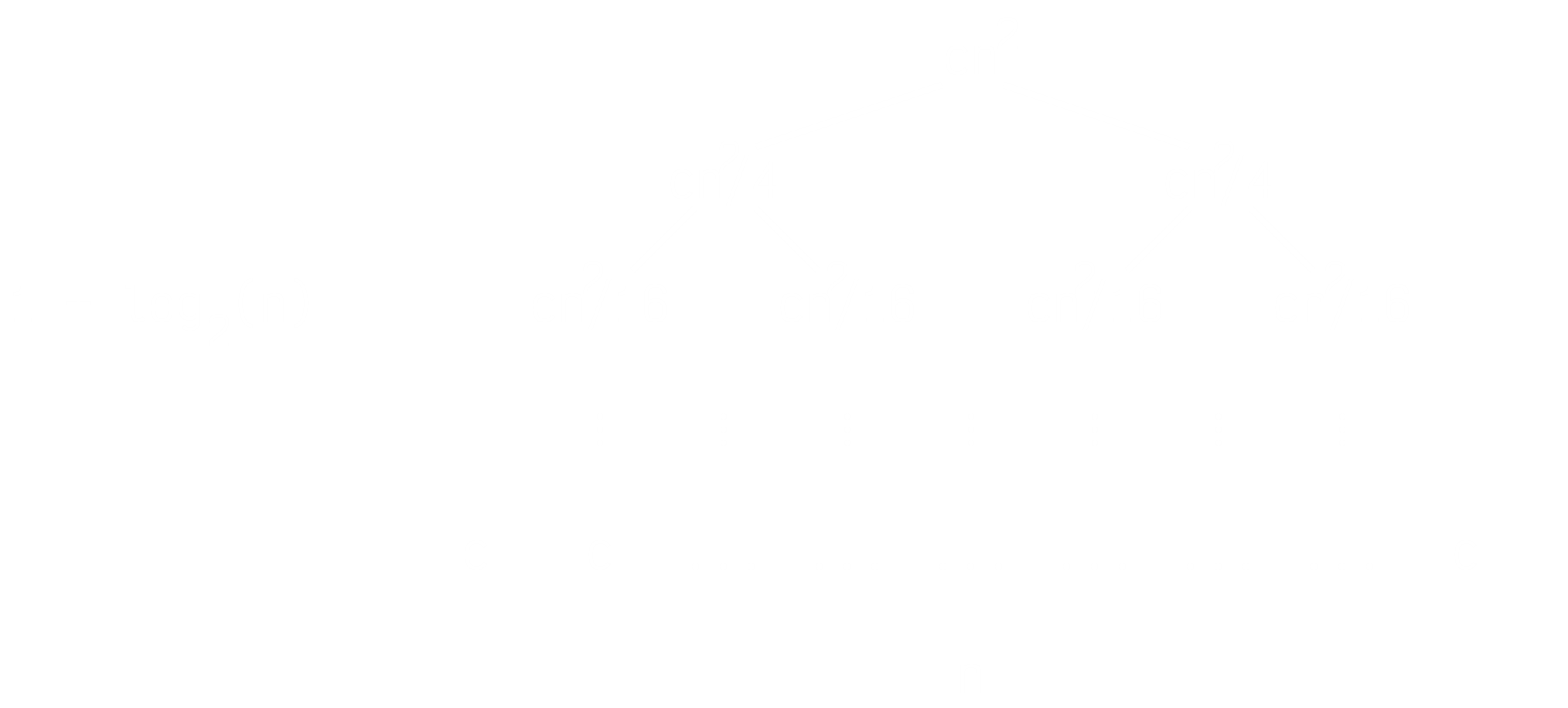
Say . Notice that we are solving a single operation in constant time. Thus, the first level will take time , the second level will take time , the third level will take time and so on, until the last level, which will have elements, and will take time .



Thus,

This is a geometric series. Even if we sum up to infinity, the value we get in this case will be . Thus,

Say .



Notice that in the last level, all the values are . This is because the denominator is increasing in squares, meaning in the last level, each element is .