Worst case for recursive algorithm is an

Worst case for the memoized algorithm is n3

Worst case for the DP algorithm is n3

Both the empirical study and mathematical analysis reach the same conclusion that the algorithms are on order an and n3, the first for recursive and the second for memoized and dynamic programming. This can be seen by noting the fact that for each additional stone added to the piles the recursive algorithm will take an exponential more amount of time and the other two algorithms will triple in time. If you view the graphs before the axes were changed to logarithmic you could see that fact. The fact that by manipulating the axes you get a “linear” graph is further evidence of the aforementioned statement.