**Problem 1**

The number of comparisons curve does match a n2/4 curve.

**Problem 2**

1. Answer: d,a,c,b,g,e,f
2. Answer: It is not a DAG so source removal will not work

**Problem 3**

As shown by the trendline the graph is very clearly logarithmic

**Problem 4**

I designed my experiment by making a loop that ran for the length of the list I was passing in. I then made my k parameter a random int from zero to the length of my list so that each index would be tested. I ran my experiment on multiple list sizes and my conclusion was that finding the kth element was, on average, not O(n).