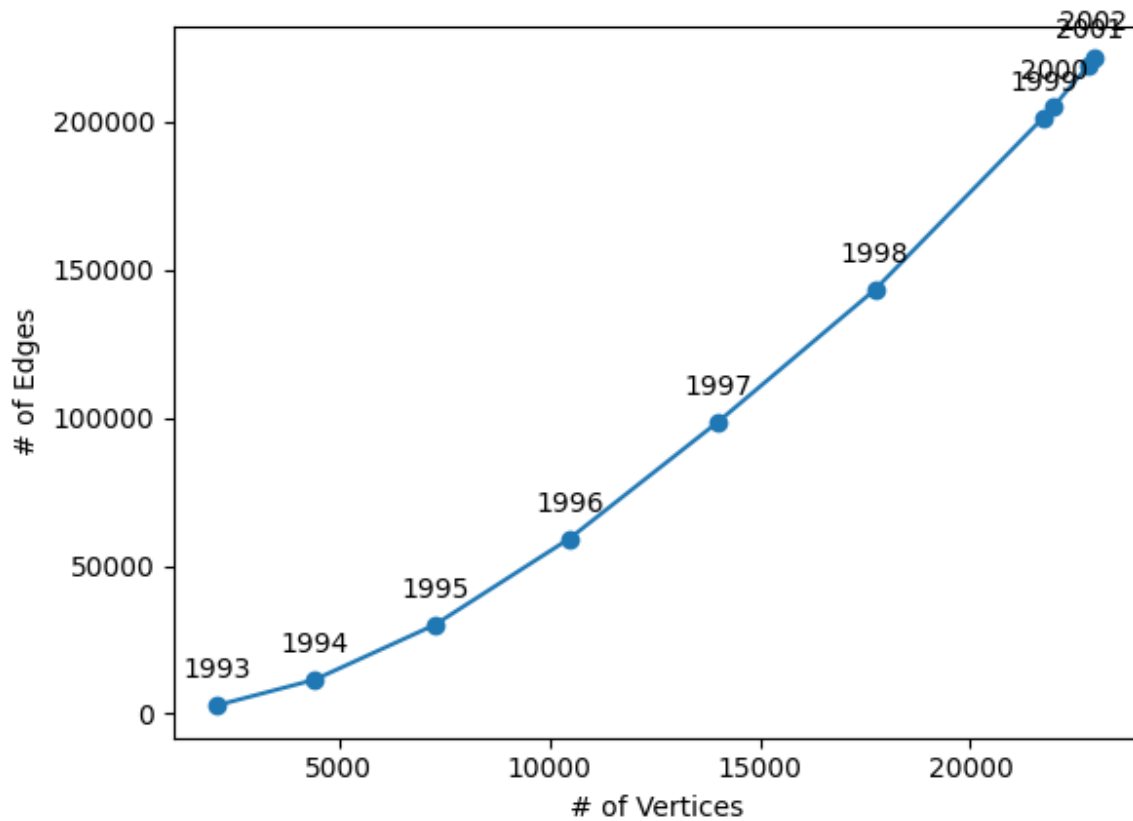


## Analysis Question 1:

Year	# Vertices	# Out Edges
1993	2117	2919
1994	4421	11519
1995	7276	30055
1996	10481	59236
1997	14013	98687
1998	17736	143301
1999	21739	201485
2000	21972	204948
2001	22811	219189
2002	22938	221412



From the image we can see that as time progresses the ratio between the number of vertices and edges is increasing. The plot seems to be following some form of polynomial curve. This would imply that the growth pattern does match the densification law. However, the changes from 1999 to 2002 are not as dramatic as the change in the previous years. This could imply the growth is slowing in the later years and will not follow the densification law. Based on what these vertices and edges represent, we can conclude that there weren't nearly as many papers published in those years which led to noticeable decline in growth. However, for the data displayed here, I would conclude it is abiding by the power densification law.

Analysis Question 2:

	g(1)	g(2)	g(3)	g(4)
1993	2919	752	261	87
1994	11519	5198	2979	1743
1995	30055	18844	14174	10964

1996	59236	42438	35368	30574
1997	98687	76451	66580	60379
1998	143301	114893	103307	95353
1999	201485	165759	152668	144973
2000	201485	165759	152668	144973
2001	201485	165759	152668	144973
2002	201485	165759	152668	144973

Although the data in the above table looks incorrect, based on what can be seen in the table it appears that the connectivity is growing exponentially. This would make sense since for every vertex added to the graph, it likely has more than one edge connected to it. In the case of this citation network, all papers cite more than one source, thus each time a new paper was added to the graph it would have multiple edges pointing to other papers (vertices) in the graph. These new edges would inherently create new paths which would support a growing level of connectivity.