Name _____

In-Class Assignment 4

1. Given the following integers, construct each hash table with hashing function h(k) = x % 7, for each of the following collision resolution strategies: 136, 930, 2839, 430, 6893, 3920, 239

A. Separate chaining

[0]	**[1]**	**[2]**	**[3]**	**[4]**	**[5]**	**[6]**

B. Linear probing

[0]	**[1]**	**[2]**	**[3]**	**[4]**	**[5]**	**[6]**

C. Quadratic probing

[0]	**[1]**	**[2]**	**[3]**	**[4]**	**[5]**	**[6]**

D. Double hashing with $h_2(k) = 2x - 1$

[0]	**[1]**	**[2]**	**[3]**	**[4]**	**[5]**	**[6]**

2. A hash table with open addressing has a capacity of M=151. Over time, it becomes over ¾ full, and consequently the programmers decide to re-hash the table. What is a good choice for the new size of the hash table, which would reduce the load factor <= 0.5 and keep collisions to a minimum? Explain.