Homework 4

Work,
Burden-Faires: 3.1.2(a), 3.1.6(c), 3.1.8(c), 3.1.10(c), 3.2.2(a), 3.2.4(a), 3.2.18

1. Below are data from the Hudson Bay Company on the number of hare pelts (in thousands) collected from 1900 to 1910. The time in the first row is the number of years after 1900.

Year	0	1	2	3	4	5	6	7	8	9	10
Pelts	30	47.2	70.2	77.4	36.3	20.6	18.1	21.4	22	25.4	27.1

a. Use Lagrange interpolation to fit these data.

b. Use your techniques from Calculus to find the maximum and minimum number of pelts based on this interpolation polynomial.

c. Repeat the process in Parts a and b using only the data points for years 0 through 5.

d. Briefly discuss the strengths and weaknesses of using these techniques for modeling the data.