MAT 118: HOMEWORK 7

DUE WEEK OF MARCH 23

p. 364 – 370, problem 2, 20, 24, 30, 36, 56(a), (c), (e), (f)
In addition, the following problems are *not* from the textbook

1. The following table shows population of a town in 2000-2003.

Year	2000	2001	2002	2003
Population in thousands	126.1	131.0	136.2	141.4

(a) Use this data to suggest a formula for P_n = population in year $2000+n$, assuming linear growth model.
(b) Use the model you suggested in part (a) to predict population in year 2010.

2. The following table shows USA population age 65 and older

Year	1940	1960	1980	2000
Population in millions	9.0	16.7	25.5	35.0

Use this data to predict population in year 2020, assuming exponential growth model.

3. The half-life of radioactive element plutonium-239 is 25, 000 years. If 24 grams of plutonium-239 are initially present, how much of it would remain after 25,000 years? 50, 000 years? 60,000 years?