

Problem 26, Section 2.3

Based on data from 298 of 351 cities and towns in Massachusetts, the average single-family tax bill from 1997 through 2007 is approximated by the function  $T(t) = 7.26t^2 + 91.7t + 2360$  where  $(0 \leq t \leq 10)$ . Here,  $t$  is in years since 1997 and  $T$  is in dollars.

a) What was the average property tax on a single-family home in Massachusetts in 1997? Well,  $T(0) = 2360$ , so it was \$2360.

b) If the trend continued, what was the average property tax in 2010? Well, 2010 is 13 years past 1997. And because  $T(13) \approx 4779$ , we have that it was \$4779.