Prob. 1
A house purchased for $175,000 is expected to triple in value in 25 years. Find a linear equation that describes the house’s value after $t$ years.

Prob. 2
Biologists studied the nutritional effects on rats that were fed a diet containing 10% protein. The protein consisted of yeast and corn flour. By varying the percentage of, $P$, of yeast in the protein mix, the group estimated that the average weight gain (in grams) of a rat over a period of time was

$$f(P) = -\frac{1}{50}P^2 + 2P + 20, \quad 0 \leq P \leq 100.$$  

Find the maximum weight gain.