EXTRA CREDIT PROBLEM 10

MONEY MATTERS:

1. You put $1000 into a certificate of deposit that earns interest at an annual rate of 5.25% per year. You cannot add to, or withdraw from the account for many years. Find the value of the certificate after 20 years.

2. Your parents are putting aside $1000 every year since you were born, in an account with your name on it. The account earns 6% which is compounded annually. Compute the value of that account on your 21st birthday.

3. (True story) In the summer of 1988 the city of Yonkers was fined for refusing to build low income housing. The fine was 100 dollars the first day and doubled every day thereafter. The City appealed the judge’s fine based on the fact that its entire budget of $337 million would be consumed by the fine after only a few days. Assuming this ruling stood, how many days was the city of Yonkers able to pay the fine?

4. In 1950, Family A borrowed 100 grams of gold from Family B with an interest (in gold) of 7%, compounded annually at the end of the year. Every January 1st, Family A pays off half of what it owes Family B.
   (a) How much gold will Family A eventually give back to Family B?
   (b) How much gold was paid back by March 2007?
   (c) When will Family A be done paying this loan?