Stock Valuation - Gordon Model

Before Nations Bank was bought by Bank of America, Tina Brown was considering the purchase of Nations Bank's common stock. Given Nations Bank's recent merger with the Southeastern powerhouse, Bank South, and talks of penetration into the Florida market via a takeover of Barnett Bank, Tina felt Nations Bank would be a solid "buy and hold" as it continued to increase its market share through aggressive growth by acquisition.

While Tina was convinced she wanted to own Nations Bank, with all the price volatility surrounding the recent speculations, she was not sure if the price was above or below the stock's intrinsic value. She decided to derive the price of Nations Bank's common stock by using the Gordon Growth Model (Constant Growth Model).

To use the Gordon Growth Model, Tina had to first calculate Nations Bank's required rate of return on their common stock. The risk free rate, as proxied by the yield on a three month Treasury Bill, was 6%. The return on the market, as proxied by the return on the Standard and Poor's 500 (S&P 500), was 10%. Nations Bank had a beta of 1.75.

Past dividend payments also had to be known. Tina was not sure how far back into the future she should go to retrieve the dividend payment information, so she arbitrarily stopped in 1987. Between 1987 and 1990, Nations Bank seemed to have very different payout amounts. Not fully understanding the reasons behind these differences, Tina decided to consider two periods for analysis: from 1987-1995 and from 1990-1995. The dividend information that Tina recovered is shown below in Table 1.

Table 1:

Year	Dividends
1995	\$2.00 (\$1.00 through June 1995)
1994	\$1.88
1993	\$1.64
1992	\$1.51
1991	\$1.48
1990	\$1.42
1989	\$1.10
1988	\$0.94
1987	\$0.86

Questions:

1. Using the Capital Asset Pricing Model (CAPM), what was Nations Bank's required rate of return on common stock?

2. Consider the first time period from 1987-1995. Use the Gordon Growth Model to determine the price of Nations Bank's common stock.

3. Consider the second time period from 1990-1995. Use the Gordon Growth Model to determine the price of Nations Bank's common stock.

4. The answers for questions 2 and 3 are very different. What does this indicate, in general, about the Gordon Growth Model? (Hint--The observed market price of Nations Bank's common stock is $70.25.)

5. What effect does the stock's required rate of return have on the calculation of its stock price when using the Gordon Growth Model?

6. If you felt that Nations Bank's last year dividend of $2.00 was going to be paid in that constant amount throughout the remainder of the company's life (i.e. zero growth), what would be the value of the stock today?

7. Based on your response to question 6, what is the relationship between the present value of a dividend paid one year from now, a dividend paid ten years from now and a dividend paid one hundred years from now?