

## Chapter 5 - Other Annuities Certain

1. Your grandfather has put \$20 a month every month starting when you were born into a saving account earning  $8\%(4)$  with a final payment on your 18th birthday. When you are ready to graduate from college (on your 22<sup>nd</sup> birthday), your grandfather withdraws all the money and gives it to. How much did he give you?
2. Given that we invest \$500 on January 1, 2010 and then start making monthly payments of \$50 into the account which is earning  $5\%(4)$  with the first payment on June 1, 2012 and the last payment on April 1, 2016, how much money have you saved towards the purchase of a car?
3. If money earns 6% compounded monthly, find the number of full quarterly stipends and the final stipend paid to a man who has an inheritance of \$325,000 from which he wants to withdraw \$5000 quarterly, starting immediately.
4. If you invest \$1000 into an account earning  $8\%(4)$  on July 12, 2008, and then on September 12, 2012 reinvest the money into an account earning  $12\%(2)$  and also start making monthly deposits of \$300 until April 12, 2045 when you stop making payments and reinvest the money into a savings account earning  $9\%(2)$ , how many full quarterly stipends of \$250,000 can you withdraw if the date of your first stipend is February 12, 2065 and what is the final smaller stipend? What would be the size of your quarterly stipends if you were to receive payments indefinitely?
5. Kelly wants to fund her college career by depositing a lump sum into an account earning  $9.5\%(1)$  on August 1, 2010. She wants to withdraw monthly payments of \$950 starting her freshman year on August 1, 2020 and continuing through her senior year with the final payment on May 1, 2025. How much must she deposit on August 1, 2010 to make all the payments required?
6. You want to have \$2.5 million in your retirement account on your 65<sup>th</sup> birthday. If you are investing your money into an account earning  $10\%(4)$  and your first payment was on your 25<sup>th</sup> birthday and your last payment is on your 50<sup>th</sup> birthday, how much must your monthly payments be?
7. David wants to save \$35,000 by making \$400 monthly deposits made at the beginning of each month. If his account is earning  $14\%(2)$ , find the number of full deposits required and find the last partial deposit.