1. Last national bank offers a CD paying 7% interest (compounded annually). If you invest $1,000 how much will you have at the end of year 5.

Answer: $1,402.55

2. You want to buy a house in 4 years and expect to need $25,000 for a down payment. If you have $15,000 to invest, how much interest do you have to earn (compounded annually) to reach your goal?

Answer: 13.62%

3. You want to buy your dream car, but you are $5,000 short. If you could invest your entire savings of $2,350 at an annual interest of 12%, how long would you have to wait until you have accumulated enough money to buy the car?

Answer: 6.66

4. How much do you have to invest today at an annual rate of 8%, if you need to have $5,000 six years from today?

Answer: 3,150.85

5. If you can earn 5% (compounded annually) on an investment, how long does it take for your money to triple?

Answer: 22.52 years

6 You are planning your retirement and you come to the conclusion that you need to have saved $1,250,000 in 30 years. You can invest into an retirement account that guarantees you a 5% annual return. How much do you have to put into your account at the end of each year to reach your retirement goal?

Answer: $18,814.30

7.  You want to buy a new plasma television in 3 years, when you think prices will have gone down to a more reasonable level. You anticipate that the television will cost you $2,500. If you can invest your money at 8% compounded monthly, how much do you need to put aside today?

Answer: $1,968.14

**8.** You set up a college fund in which you pay $2,000 each year at the end of the year. How much money will you have accumulated in the fund after 18 years, if your fund earns 7% compounded annually?

Answer $67.998.07

**9.** You set up a college fund in which you pay $2,000 each year at the beginning of the year. How much money will you have accumulated in the fund after 18 years, if your fund earns 7% compounded annually?

Answer: $72.757.93

**10.** When you retire you expect to live for another 30 years. During those 30 years you want to be able to withdraw $45,000 at the beginning of each year for living expenses. How much money do you have to have in your retirement account to make this happen. Assume that you can earn 8% on your investments.

Answer: $547.128.27

11. You are offered a security that will pay you $2,500 at the end of the year forever. If your discount rate is 8%, what is the most you are willing to pay for this security?

Answer: $26.696

12. You found your dream house. It will cost you $175,000 and you will put down $35,000 as a down payment. For the rest you get a 30-year 6.25% mortgage. What will be your monthly mortgage payment (assume no early repayment)?

Answer $862

Please provide the equations used to solved this and give step-by-step instructions in the simplest form.