

Practice Quiz 5: Planning for Retirement

1. Mary is saving to make a 20% down payment on a house \$150,000 in 8 years. The down payment will be \$30,000 and she can earn a 4% interest on her savings. If she sets aside a fixed amount at the end of each year, how much must she set aside at the end of each year to meet the down payment? If she sets aside a fixed amount at the end of each month, how much must she set aside at the end of each month to meet the down payment?
2. A man is saving for his daughter's college education. He expects to earn an average return of 8% on his investment account and will need \$120,000 in 15 years. He plans to meet this goal by setting aside the same amount at the beginning of each year for the next 15 years. What amount must he set aside each year to meet this commitment?
3. Today is the first day of Mr. McGinty's retirement. He currently has \$950,000 in his retirement account, which he expects can earn an annual return of 4%. If he withdraws the same amount at the beginning of each year for the next 35 years, up to how much may he withdraw? If he withdraws \$60,000 per year at the beginning of each year, how long will his retirement fund last?
4. Matt and Lindsay met when taking the same personal finance course in college and got married shortly after graduation. Because they both appreciate sound financial planning, they've decided to start saving for retirement immediately. Both are currently 20 years old and plan to retire in 45 years at 65. They hope to live off of at least \$60,000 per year in retirement and want to save enough to last 40 years. They estimate they can earn an average return of 8% on their investments while saving for retirement, but after that will shift into less risky assets which they expect should yield around 3% per year. How much must Matt and Lindsay set aside at the end of each year to meet their goals?
5. Dan is 25 years old and committed to early retirement. He makes \$80,000 per year after taxes, of which he saves 25% for retirement. He expects to earn 5% on his investments. If, after he retires, Dan is willing to withdraw from principal such that he fully amortizes at age 95, show that Dan can retire in 26.5 years and sustain withdrawals of \$60,000 per year.