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If I want to have \$10,000 for a cool vacation in four years, and I can invest in a CD that offers 5.25% interest compounded daily, how much do I need to set aside today?

HOMEWORK

1. Make an Excel file that calculates and then graphs with clear axis labels, titles, and legend the result when:
 - a. \$1 is invested for 10 years at 10% interest compounded annually
 - b. \$1 is invested for 10 years at 10% interest compounded monthly
 - c. \$1 is invested for 10 years at 10% interest compounded continuously
2. An accountant for a corporation forgot to pay the firm's income tax of \$321,812.85 on time. The government charged a penalty based on an annual interest rate of 13.4% of the 29 days the money was late. What is the total amount that is now due? (Use a 365 day year.) *from Lial*
3. Upon graduation from college, Kelly was able to defer payment on his \$40,000 subsidized Stafford student loan for 6 months. Since the interest will no longer be paid on his behalf, it will be added to the principal until payments begin. If the interest is 6.54% compounded monthly, what will the principal amount be when he must begin repaying his loan? *From Lial.*
4. You won the lottery! You can have \$200,000 now or you can have \$250,000 if you're willing to wait 5 years. You can invest any money you earn today at 6% interest compounded continuously. Which deal should you take? Show why.
5. Joe needs to have \$30,000 for a down-payment for a house in three years. He has \$35,000 in the bank now. How much does he need to set aside at 4.25% interest compounded monthly today? (He'll spend the rest on a toy.)
6. If I tell you your investment of \$10,000 grows according to the formula $A = 10,000e^{.075t}$ what does that tell me, roughly and without use of a calculator, about the growth rate of my investment over the period of 1 year?



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