Activity 7

Time Value of Money: Compounding

Group:

Section:

1. You win the lottery and are offered either a lump sum of $400,000 today or a 10-year annuity with semi-annual payments of $32,500 (i.e. 20 payments of this size), with the first payment occurring six months from today. Your required return (i.e. *effective* annual rate version of your discount rate) is 12%. Which option should you choose? *Show your work.*

2. An insurance broker calls you and—despite your finance professor's warnings—you listen to their offer. The offered insurance product requires you to make $50 semi-annual payments for the next 20 years (with the first payment 6 months from today). If your required rate of return is 6% per year (i.e. effective), what amount of money should the insurance product offer to pay you at the end of 20 years?

3. You are investigating an investment opportunity. The security requires you to make monthly payments of $100 each (with the first payment one month from today) for the next 10 years. It offers a *nominal* annual return of 6% with quarterly compounding. What is the future value of this security at the end of its life, including all payments and interest?