Problems

9.1 Find the following values for a lump sum assuming annual compounding:

a. The future value of $500 invested at 8 percent for one year

b. The future value of $500 invested at 8 percent for five years

c. The present value of $500 to be received in one year when the opportunity cost rate is 8 percent

d. The present value of $500 to be received in five years when the opportunity cost rate is 8 percent

9.4 Find the following values assuming a regular, or ordinary, annuity:

a. The present value of $400 per year for ten years at 10 percent

b. The future value of $400 per year for ten years at 10 percent

c. The present value of $200 per year for five years at 5 percent

d. The future value of $200 per year for five years at 5 percent

9.6 Consider the following uneven cash flow stream:

Year	Cash Flow
0	$ 0
1	250
2	400
3	500
4	600
5	600

a. What is the present (Year 0) value if the opportunity cost (discount) rate is 10 percent?

b. Add an outflow (or cost) of $1,000 at Year 0. What is the present value (or net present value) of the stream?

9.7 Consider another uneven cash flow stream:

Year	Cash Flow
0	$2,000
1	2,000
2	0
3	1,500
4	2,500
5	4,000

a. What is the present (Year 0) value of the cash flow stream if the opportunity cost rate is 10 percent?

b. What is the future (Year 5) value of the cash flow stream if the cash flows are invested in an account that pays 10 percent annually?

9.9 Assume that you just won $35 million in the Florida lottery, and hence the state will pay you 20 annual payments of $1.75 million each beginning immediately. If the rate of return on securities of similar risk to the lottery earnings (e.g., the rate on 20-year U.S. Treasury bonds) is 6 percent, what is the present value of your winnings?