Chapter 1

1.5 Investments Involving Regular Payments

Determining the future value of an investment involving regular deposits

Example - Darva is saving for a trip to Australia in 2 years. She plans to work on a student visa while she is there, so she needs only enough money for a return flight and her expenses until she finds a job. She deposits $400 into her savings account at the end of each 6-month period from what she earns as a server. The account earns 3.8%, compounded semi-annually. How much money will be in the account at the end of 2 years?

*Note: Each deposit earns interest for a different length of time.

*We can separate each deposit and calculate the for each individual length of time

Year	Deposit ($)	# of Compounding Periods (n)	Future Value
0.5	$400	3	$400(1.019)^3 = 423.24$
1	$400	2	$400(1.019)^2 = 415.34$
1.5	$400	1	$400(1.019)^1 = 407.60$
2	$400	0	$400(1.019)^0 = 400$

add these to find the total

= $1646.18

Examples

1.) Adam made a $200 payment at the end of each year into an investment that earned 5%, compounded quarterly. What was his future value at the end of 5 years? How much of this money will be earned interest?

Using Technology to Solve Financial Problems

On the TI-83 graphing calculators, there is an application that does all the calculations we've seen this chapter!

Press: 2nd FINANCE ENTER

*to select "TVM Solver"

N= number of compounding periods total
I%= interest as a percent
PV= present value
PMT= payment amount
FV= future value
P/Y= # of payments per year
C/Y= # of compound periods per year
PMT: END BEGIN are payments made at the beginning or end of each year?

Procedure:

1. Enter all the amounts you know from the problem
2. Place cursor on line you are solving for
3. Press ALPHA then SOLVE (the ENTER key)

enter as a negative as it is $ you are spending

Homework

Textbook pages 46-47 #5, ~~7*, 8*, 9*, 10*, 13*, 17~~

* Fill in the following information for ~~each question~~ the in-class handout (leave the unknown value blank)

N=
I%=
PV=
PMT=
FV=
P/Y=
C/Y=
PMT: END BEGIN