

# TVM Solver

MATH 142

Fall '05

To get the TVM solver, using a TI-83, press the **2nd** key followed by the  $x^{-1}$  key. Press **enter** to select 1:TVMSolver. Using a TI-83Plus or a TI-84, press the **APPS** key. Select **Finance**. Press **enter** to select 1:TVMSolver.

$N$  stands for the total number of times you compound (for example, if the interest is compounded quarterly for ten years,  $N = 4 * 10 = 40$ ),

$I\%$  is the interest rate as a percent,

$PV$  stands for present value (what something is worth right now),

$PMT$  stands for the payment amount (mortgage payments, monthly deposits, etc.),

$FV$  stands for the future value and the number must have the opposite sign of the number for  $PV$ ,

$P/Y$  stands for number of payments per year, and

$C/Y$  is the number of times you compound in a year.

The last line represents whether the payments are made at the end of the month or at the beginning. Unless otherwise stated, assume the end of the month.

Example: Suppose we have an savings account that has an interest rate of 3% which is compounded quarterly. We decide to invest \$1,000 for 5 years. How much money is in the account at the end of the five year period?

We are solving for  $FV$ , you can temporarily enter 0 for the  $FV$  or leave whatever number is there. The other values are:

$$N = 5 * 4$$

$$I\% = 3$$

$$PV = -1000$$

$$PMT = 0$$

$$FV = \boxed{\text{alpha}} \boxed{\text{enter}}$$

$$P/Y = 4$$

$$C/Y = 4$$

$$PMT: \boxed{\text{END}} \quad \text{BEGIN}$$

After entering all the other values, on the line for  $FV$ , press **alpha** (the green key) followed by the **enter** key.

$$FV = 1161.18$$

We can solve for  $N$ ,  $I\%$ ,  $PV$ ,  $PMT$ , and  $FV$ . Which ever one you want to solve for, go to that line and press **alpha** (the green key) followed by the **enter** key. Remember that the number you enter for  $PV$  has to have the opposite sign as the number for  $FV$ .