

When using the TI-83 Plus or TI-84 Plus calculators you access **Finance** by pressing the APPS key.

Compound Interest

Simple interest computations always use the starting principal as the basis for calculating the periodic interest. In compound interest computations, the interest from the previous period is added to the current principal and the new total is used as the basis for calculating the interest.

Calculator Housekeeping Detail

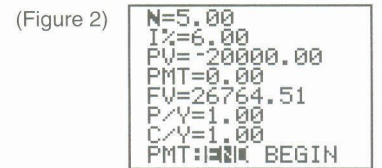
When using the **TVM Solver**, enter values for each of the variables. To solve, move the cursor to the variable of interest and press $\boxed{\text{ALPHA}} \boxed{\text{SOLVE}} (1OE)^\dagger$. A shaded box (■) beside the variable will indicate the solution has been found. If you change a value on the screen, you will lose the shaded box and must solve again for the new value.

Example 1:

What is the future value of a \$20,000 Certificate of Deposit invested for 5 years at 6% compounded annually?

1. Press $\boxed{2\text{nd}} \boxed{\text{FINANCE}} (5A)$. Choose **1:TVM Solver** from the CALC menu. (Figure 1)
2. Enter $N = 5$, $I\% = 6$, $PV = -20000$, $PMT = 0$, $P/Y = 1$ and $C/Y = 1$. Notice that the money invested, PV, is entered as a negative number because cash outflows are considered negative, while inflows are positive.
3. Place the cursor on the Future Value (FV) and press $\boxed{\text{ALPHA}} \boxed{\text{SOLVE}} (1OE)$.

The future value of the certificate of deposit is \$26,764.51. (Figure 2)



[†] Refer to the section on Key Arrangement in Chapter 1 for an explanation of the key locator codes used in this manual.

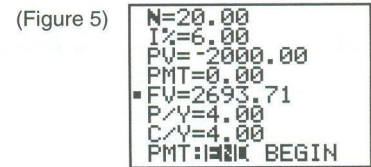
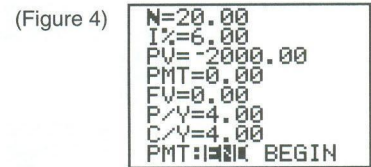
Example 2:

Tracy invested \$2,000 at 6% compounded quarterly for 5 years. What will his investment be worth in 5 years?

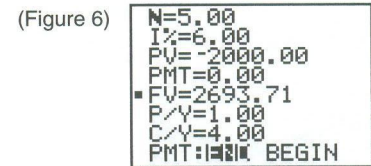
1. Press **2nd** [FINANCE] (5A) and select **1:TVM Solver** from the CALC menu. N is the number of payments, or $5 * 4 = 20$. $I\% = 6$ and $PV = -2000$. Notice that PV is entered as a negative number because, from Tracy's perspective, the \$2,000 is cash output; it is money leaving his hand. PMT is 0. Payments per year, P/Y, and compounding periods, C/Y, are each 4. (Figures 3 and 4)



2. Move the cursor to FV, then press **ALPHA** [SOLVE] (1OE) to get \$2,693.71. Note the presence of the shaded ■ before FV, which indicates that FV has been calculated for the given input values. (Figure 5)



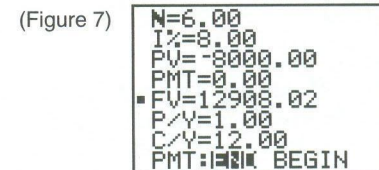
If N is entered in years (5) rather than payment periods (20), then P/Y should be changed to 1 and C/Y to 4. This gives the same result, \$2,693.71. (Figure 6)



Example 3:

Find the future value of \$8,000 invested for 6 years at 8% compounded monthly.

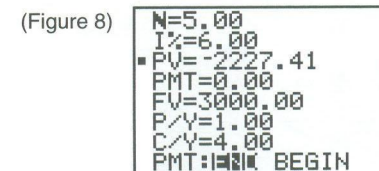
Use the **TVM Solver** and enter all the values except FV. Move the cursor to FV, then press **ALPHA** [SOLVE] (1OE) to get \$12,908.02. (Figure 7)



Example 4:

How much money should you deposit in a savings and loan association paying 6% compounded quarterly in order to have \$3,000 in 5 years?

Use the **TVM Solver** and enter all the values except PV. Move the cursor to PV, then press **ALPHA** [SOLVE] (1OE) to get -\$2,227.41. (Figure 8)



Notice PV is negative because it is cash paid out by the investor.

If N is set to 20, then change P/Y to 4 to get the same result. (Figure 9)

