

## Using the TI-83/84 TVM\_Solver for Annuities

The TVM (Time Value of Money) package is specially designed to help with annuities. Annuities are any financial situation where there is a periodic payment. Such situations include mortgages, loans, sinking funds, and both contributions to and deductions from an IRA.

The variables are as follows:

**N** = The number of payments involved. For example, a 30 year mortgage with monthly payments would be  $30 \times 12 = 360$ .

**I%** = Annual interest rate, not expressed as a decimal so 7% is inputted as 7, not .07

**PV** = Present Value

**PMT** = The amount of the periodic payment

**FV** = Future Value

**P/Y** = Payments per year. Note : Changing this value automatically changes the value of **C/Y**. So set this one first.

**C/Y** = Number of times interest is compounded per year. See note about **P/Y**

**PMT:END BEGIN** = Whether payments are due at the first of each period or at the end. We are always going to use **END**.

The idea is that there are 7 variables and you should know 6 of them. You fill in the six you know and move your cursor to the one you don't know and hit **SOLVE** (Alpha-Enter).

**Important Note** : If a money is an outflow, it should be negative. An inflow is positive. This applies to the **PV**, **FV**, and **PMT** fields. For example, if you are making contributions to an IRA of \$500 per month then you would use -500 for **PMT**. If you are receiving payments from an IRA of \$500 per month then you would use 500 for **PMT**. A rule of thumb : **PV** should almost always be negative and **FV** should almost always be positive.