Using the Numeric Solver on the TI-83+

The numeric solver is useful when you are using the same formula frequently. Basically you store the formula and enter the values for the variables you know and it will solve for the one you need to find.

Let's enter the formula $A = P\left(1 + \frac{r}{n}\right)^{nt}$ and use it to solve various types of problems.

On the TI-83+, the equation must first be set equal to 0.

$$0 = A - P\left(1 + \frac{r}{n}\right)^{nt}$$

To enter the formula:

Math
0: Solver
(If there is an equation already entered, press the **up arrow** and then **clear** to delete it.)
Key in the right side of the Equation: **Alpha a - Alpha P*(1 + Alpha r / Alpha n) ^ (Alpha n * Alpha t**)

(Be sure to use times between p and (and n and t or the calculator will assume they are not separate variables. Also the exponent n*t must be in parentheses.)

Enter

(If values appear for all or some of the variables, **highlight** each one and press **0**.

*If more than one equation will be used frequently, they can be entered in the Y= screen and then entered using **Vars, Y-Vars, 1: Function**.*

Problem #1: If $50 is invested at 6% compounded monthly, how much will the account be worth in 3 years?

Solution: Since A is what we want to find, fill in the other values.

a=
p = **50**
r = **.06**
n = **12**
t = **3**

Move the cursor back to a =
Alpha Solve (the Enter key)

The calculator will show a = $59.83

Problem #2: How much needs to be invested at 8% compounded quarterly so that $750 will be in the account after 3 years?

Solution: This time we want to find P, the present value.

a= **750**
p =
r = **.08**
n = **4**
t = **3**

Move the cursor back to p =
Alpha Solve

The calculator will show p = $591.37.

Problem #3: If $5000 is invested at 10% per year compounded monthly, how long will it take for the money to double ($10,000)?

Solution: In this problem, we want to find t, the time. Enter the values.

a=**10,000**
p = **5,000**
r = **.10**
n = **12**
t =

Move the cursor to t =
Alpha Solve

The calculator will show t = 6.96 years