

Using the Numeric Solver on the TI-89

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.

To enter the formula:

Apps

9: Numeric Solver

(There may be an equation already entered, press **clear** to delete it.)

Key in Equation: **Alpha a = Alpha P*(1 + Alpha r / Alpha n) ^ (Alpha n * 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, clear them by **F6:Clr A-Z** then **Enter** and **Enter**.)

To Save the Equation in the Math Folder

F1: Tools

2: Save Copy As. . .

Folder: If Math is not showing, **arrow right and select it**.

Variable: Key in **Value** (or whatever you want to name the equation)

Enter

Enter

To access the equation the next time you want to use it, there are two choices after **Apps** then **9: Numeric Solver**

F5: lists the last 10 equations used. If the one you want isn't showing, arrow right and select it from the list if it is there.

Enter

OR

F1: Tools

1: Open

Folder: Select **Math** (or whatever folder you saved it in)

Variable: if the equation name isn't showing, **arrow right and select it.**

Enter

Once the equation is showing
Enter: to display the variables

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, leave it blank and fill in the other values.

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

Move the cursor back to a =
F2: Solve

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 =
n = **4**
t = **3**

$$r = .08$$

Move the cursor back to $p =$
F2: 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.

$$a = 10,000$$

$$p = 5,000$$

$$n = 12$$

$$t =$$

$$r = .10$$

Move the cursor to $t =$

F2: Solve

The calculator will show $t = 6.96$ years