Time Value of Money (TVM)

This function is useful for loans, annuities, and bonds. For loans and annuities, you need to input three values to solve for an unknown fourth value. For bonds, you need to input four values to solve for an unknown fifth value.

Button	Description
N	Number of periods
I/Y	Effective interest rate per period (in %)
PV	Present value*
PMT	Amount of payment per period*
FV	Future value*

Button	Description
2ND I/Y (P/Y)	Change compounding period
2ND PV (AMORT)	Access amortization schedule (explained in CN3)
2ND PMT (BGN)	Switch between annuity due or annuity immediate
2ND FV (CLR TVM)	Clear TVM worksheet

Before working on a new question, clear the TVM worksheet by pressing 2ND FV (CLR TVM).

To assign values, input the numbers and press the respective buttons. To calculate, press CPT and the respective button (i.e. the value you want to find). Note the default value for each TVM key is 0.

It is important to determine the signs for PV, PMT, and FV. Make sure cash outflows and cash inflows have opposite signs. Thus, PV should have a different sign than both PMT and FV. For example, if PV is negative, then PMT and FV must be positive.

For an annuity-due, where payments occur at the beginning of the year instead of at the end of the year, the BGN function can be used. Press **2ND** **PMT** **2ND** **ENTER** to switch between END and BGN. When activated, notice that BGN appears at the top right of the display.

Amortization Schedule

The amortization function is very helpful in loan amortization questions. To access it, press <kbd>2ND</kbd> <kbd>PV (AMORT)</kbd>. We can calculate the principal repaid, interest paid, and outstanding balance using this function.

Display	Description
P1	Starting period
P2	Ending period
BAL	Outstanding balance after P2
PRN	Sum of principal repaid from P1 to P2
INT	Sum of interest paid from P1 to P2

Before using this function, all loan information needs to be calculated and included in the calculator. Otherwise, default values will be used.

The only inputs are P1 and P2. Enter in their values, then press <kbd>ENTER</kbd>. Navigate down or up as needed.

If P1 and P2 are the same, PRN and INT show the principal repaid and interest paid for that period.

Cash Flow Worksheet

This function is accessed by pressing **CF**. It is used to calculate the net present value or the effective interest rate of a stream of non-level payments. The **NPV** and **IRR** buttons are also used in the cash flow worksheet.

Display	Description
CFo	Cash flow at time 0
C01	The first cash flow
F01	Frequency of the first cash flow
C02	The second cash flow (and so on...)

To input values, enter in the appropriate numbers and press **ENTER**. Navigate using the up **↑** and down **↓** arrows.

- To calculate the effective interest rate, press **IRR** and **CPT**.

- To calculate the net present value, press **NPV**. Input the interest rate (I), navigate down to NPV and press **CPT**.

- In the BA II Plus Professional, you can calculate the net future value. This function is not available in the BA II Plus. To calculate the net future value, press **NFV**, input the interest rate (I), navigate down to NFV and press **CPT**.

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To clear the cash flow worksheet, press **2ND** **CEIC** (CLR WORK).

If you have a non-annual period, you can also use this function. Make sure that the length of each period is the same, and use the appropriate interest rate.

Effective Interest Rate to Nominal Interest Rate Conversion

Access this function by pressing **2ND** **2** (ICONV). This function converts effective rates to nominal rates. With an annual effective interest rate, we can easily find the nominal interest rate compounded quarterly (monthly or daily).

Display	Description
EFF	The equivalent effective interest rate
C/Y	Number of compounding periods in a year
NOM	The equivalent nominal interest rate

Input values by entering numbers and pressing **ENTER**. To calculate, navigate using the up and down arrow keys and press **CPT**.