

# HP 10BII Financial Calculator

## QUICK REFERENCE GUIDE



### Basics

Keys:	Display:	Description:
<b>ON</b>	0.00	Turns calculator on.
<b>[orange label]</b>	0.00	Displays shift annunciator ( <b>SHIFT</b> ).
<b>[ ]</b>	0.00	Discontinues shift.
<b>1 2 3</b>	12_	Erases last character.
<b>C</b>	0.00	Clears display.
<b>CLX</b>	0.00	Clears statistics memory.
<b>C ALL</b>	0.00	Clears all memory.
<b>OFF</b>		Turns calculator off.

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### Percentages

<b>%</b>	Percent.	<b>MAR</b>	Margin
<b>CST</b>	Cost.	<b>MU</b>	Markup
<b>PRC</b>	Price.		

Add 15% to \$17.50.

Keys:	Display:	Description:
<b>1 7 5 0 0</b>	17.50	Enters number.
<b>1 5 %</b>	20.13	Adds 15%.

Find the margin if cost is \$15.00 and selling price is \$22.00.

<b>1 5 CST</b>	15.00	Enters cost.
<b>2 2 PRC</b>	22.00	Enters price.
<b>MAR</b>	31.82	Calculates margin.

If the cost is \$20.00 and the markup is 33%, what is the selling price?

<b>2 0 CST</b>	20.00	Enters cost.
<b>3 3 MU</b>	33.00	Enters markup.
<b>PRC</b>	26.60	Calculates price.

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### Memory Keys

<b>K</b>	Stores a constant operation.
<b>M</b>	Stores a value in the M register (memory location).
<b>RM</b>	Recalls a value from the M register.
<b>M+</b>	Adds a value to the number stored in the M register.
<b>STO</b>	Stores a value in a numbered register.
<b>RCL</b>	Recalls a value from a numbered register.

Multiply 17, 22, and 25 by 7, storing "× 7" as a constant operation.

Keys:	Display:	Description:
<b>1 7 X 7 K</b>	7.00	Stores "× 7".
<b>=</b>	119.00	Multiplies 17 × 7.
<b>2 2 =</b>	154.00	Multiplies 22 × 7.
<b>2 5 =</b>	175.00	Multiplies 25 × 7.

Store 519 in register 2, then recall it.

<b>5 1 9 STO 2</b>	519.00	Stores in register 2.
<b>C</b>	0.00	Clears display.
<b>RCL 2</b>	519.00	Recalls register 2.

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### Time Value of Money (TVM)

Enter any four of the five values and solve for the fifth.  
A negative sign in the display represents money paid out; money received is positive.

<b>N</b>	Number of payments.
<b>I/YR</b>	Interest per year.
<b>PV</b>	Present value.
<b>PMT</b>	Payment.
<b>FV</b>	Future value.
<b>BEGIN</b>	Begin or End mode.
<b>P/YR</b>	Number of payments per year mode

See example on page 6.

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If you borrow \$14,000 (PV) for 360 months (N) at 10% interest (I/YR), what is the monthly repayment?

Set to End mode. Press **BEGIN** if **BEGIN** annunciator is displayed.

Keys:	Display:	Description:
<b>1 2 P/YR</b>	12.00	Sets payments per year.
<b>3 6 0 N</b>	360.00	Enters payments.
<b>1 0 I/YR</b>	10.00	Enters interest per year.
<b>1 4 0 0 0 0 PV</b>	14,000.00	Enters present value.
<b>0 FV</b>	0.00	Enters future value.
<b>PMT</b>	-122.86	Calculates payment if paid at end of period.

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### TVM What if...?

It is not necessary to reenter TVM values for each example. Using the values from the previous page, how much can you borrow if you want a payment of \$100.00?

Keys:	Display:	Description:
$\text{1} \text{0} \text{0} \text{0} \text{+/-} \text{PMT}$	-100.00	Enters new payment amount. (Money paid out is negative.)
$\text{PV}$	11,395.08	Calculates amount you can borrow.
How much can you borrow at a 9.5% interest rate?		
$\text{9} \text{.} \text{5} \text{I/YR}$	9.50	Enters new interest rate.
$\text{PV}$	11,892.67	Calculates new present value for \$100.00 payment and 9.5% interest.
$\text{1} \text{0} \text{I/YR}$	10.00	Reenters original interest rate.
$\text{1} \text{4} \text{0} \text{0} \text{0} \text{0} \text{PV}$	14,000.00	Reenters original present value.
$\text{PMT}$	-122.86	Calculates original payment.

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Find the annual effective interest rate of 10% nominal interest compounded monthly.

Keys:	Display:	Description:
$\text{1} \text{0} \text{NOM}$	10.00	Enters nominal rate.
$\text{1} \text{2} \text{P/YR}$	12.00	Enters payments per year.
$\text{EFF%$	10.47	Calculates annual effective interest.

### IRR/YR and NPV

$\text{P/YR}$	Number of periods per year (default is 12).
$\text{CF}$	Cash flows, up to 15 ( $j$ is the cash flow number).
$\text{N}$	Number of consecutive times cash flow $j$ occurs.
$\text{IRR/YR}$	Internal rate of return per year.
$\text{NPV}$	Net present value.

See example on page 11.

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### Amortization

After calculating a payment using Time Value of Money (TVM), enter the periods to amortize and press  $\text{AMORT}$ . Then press  $\text{=}$  to continually cycle through the interest, principal, and balance values (indicated by the **PRIN**, **INT**, and **BAL** annunciators respectively).

Using the TVM example from the previous page, amortize a single payment and then a range of payments.

Amortize the 20<sup>th</sup> payment of the loan.

Keys:	Display:	Description:
$\text{2} \text{0} \text{P/PT}$	20.00	Enters period to amortize.
$\text{AMORT}$	20 – 20	Displays period to amortize.
$\text{=}$	-7.25	Displays principal.
$\text{=}$	-115.61	Displays interest. (Money paid out is negative.)
$\text{=}$	13,865.83	Displays balance.

See example on page 9.

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If you have an initial cash outflow of \$40,000, followed by monthly cash inflows of \$4,700, \$7,000, \$7,000, and \$23,000, what is the *IRR/YR*? What is the *IRR* per month?

Keys:	Display:	Description:
$\text{C ALL}$	0.00	Clears all memory.
$\text{1} \text{2} \text{P/YR}$	12.00	Sets payments per year.
$\text{4} \text{0} \text{0} \text{0} \text{0} \text{0} \text{+/-} \text{CF}$	-40,000.00	Enters initial outflow.
$\text{4} \text{7} \text{0} \text{0} \text{0} \text{CF}$	4,700.00	Enters first cash flow.
$\text{7} \text{0} \text{0} \text{0} \text{0} \text{CF}$	7,000.00	Enters second cash flow.
$\text{2} \text{N}$	2.00	Enters number of consecutive times cash flow occurs.
$\text{2} \text{3} \text{0} \text{0} \text{0} \text{0} \text{CF}$	23,000.00	Enters third cash flow.
$\text{IRR/YR}$	15.96	Calculates <i>IRR/YR</i> .
$\text{=}$ $\text{1} \text{2} \text{=}$	1.33	Calculates <i>IRR</i> per month.

What is the *NPV* if the discount rate is 10%?

$\text{1} \text{0} \text{I/YR}$	10.00	Enters <i>I/YR</i> .
$\text{NPV}$	622.85	Calculates <i>NPV</i> .

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Amortize the 1<sup>st</sup> through 12<sup>th</sup> loan payments.

$\text{1} \text{P/PT}$ $\text{1} \text{2}$	12_	Enters range of periods to amortize.
$\text{AMORT}$	1 – 12	Displays range of payments.
$\text{=}$	-77.82	Displays principal.
$\text{=}$	-1,396.50	Displays interest.
$\text{=}$	13,922.18	Displays balance.

### Interest Rate Conversion

To convert between nominal and effective interest rates, enter the known rate and the number of periods per year, then solve for the unknown rate.

$\text{NOM%$	Nominal interest percent.
$\text{EFF%$	Effective interest percent.
$\text{P/YR}$	Periods per year.

See example on page 10.

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### Statistics

$\text{CL}$	Clear statistical registers.
number $\text{=}$ $\text{+}$	Enter one-variable statistical data.
number $\text{=}$ $\text{-}$	Delete one-variable statistical data.
number1 $\text{=}$ $\text{P/PT}$ number2 $\text{=}$ $\text{+}$	Enter two-variable statistical data.
number1 $\text{=}$ $\text{P/PT}$ number2	Delete two-variable statistical data.
$\text{=}$ $\text{=}$	Means of $x$ and $y$ .
$\text{=}$ $\text{=}$ $\text{SWAP}$	Mean of $x$ weighted by $y$ .
$\text{=}$ $\text{=}$ $\text{SWAP}$	Sample standard deviations of $x$ and $y$ .
$\text{=}$ $\text{=}$ $\text{SWAP}$	Population standard deviations of $x$ and $y$ .
$y$ -value $\text{=}$ $\text{=}$ $\text{SWAP}$	Estimate of $x$ and correlation coefficient.
$x$ -value $\text{=}$ $\text{=}$	Estimate of $y$ .
$\text{0}$ $\text{=}$ $\text{=}$ $\text{SWAP}$	$y$ -intercept and slope.

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