

Using the HP-10B calculator for financial calculations

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This is a brief guide to using the HP10B financial calculator. It does not replace your instruction booklet, nor does it replace actually practicing with the calculator. In the materials below, **BOLD FACE** indicates that you push a key with that label on your HP10B. # below indicates that you push a number key on your HP10B. **Sh** indicates that you push the yellow-orange or green shift key.

I use the following convention when I do work on financial calculations: I treat cash flows I am receiving as positive numbers. I treat cash flows I am paying out as negative numbers. To turn a positive number into a negative number, enter the number on your keypad and press +/-.

General setting up of your calculator

To set the number of digits after the decimal point, press **Sh = #** where # is the number of digits you want to display after the decimal point. For example, press **Sh=2** to display 2 digits after the decimal.

To set cash flows to the beginning of period or the end of period, press **Sh0**. This toggles between “begin” mode and “end” mode.

To calculate financial functions

To enter the number of periods in a year, press # and **Sh PMT** (for example, enter **12 Sh PMT** for monthly).

<i>To calculate</i>	<i>Enter¹</i>			<i>Push for result</i>
<i>Future value</i>	# N	# I/YR	# PMT and/or # PV	FV
<i>Present value</i>	# N	# I/YR	# PMT and/or # FV	PV
<i>Interest rate</i>	# N	# PMT and/or # PV ²	# PMT and/or # FV ³	I/YR
<i>Annuity payment</i>	# N	# I/YR	# PV or # FV	PMT

To amortize a loan, do the steps for annuity payment as shown above. Then enter # **INPUT #** where the first # is the first period you want to amortize, and the second # is the end of the period you want to amortize (for example, to do periods 7 to 10, **7 INPUT 10**). Then press **Sh AMORT**. To get the amount of interest you paid this period, press =. To get the amount of principal you paid this period, press = again. To get the remaining balance of the loan after this period, press = again. To do the next period, press **Sh AMORT**. If, at any period beginning, you want to amortize more than one period (for example, if you had a 12 months of payments on your house loan after a short first period of 5 payments), you'd press # **INPUT #** (in my example **6 INPUT 17**). The first year would amortize 5 months of the loan, and the second year would amortize 12 months of the loan. Then follow the steps above starting with **Sh AMORT**.

To calculate IRR and NPV

For IRR and NPV, enter the cash flows, remembering the sign convention. To clear out previous data, press **Sh INPUT**. To enter each flow, push # **CFj**, remembering Flow (0) is the flow at period zero; Flow (1) is the first flow, etc. If the cash flow is repeated, enter the number of times it is repeated # **Sh CFj**.

If you are calculating an NPV, enter your interest rate # **I/YR** followed by **Sh NPV**.

If you are calculating an IRR, enter **Sh IRR**.

¹ Remember to clear your calculator before beginning calculations by using **Sh INPUT**.

² Both **PMT** and **PV** should be of the same sign.

³ Both **PMT** and **FV** should be of the same sign, and should be opposite the sign of those things entered in footnote 2 above.