



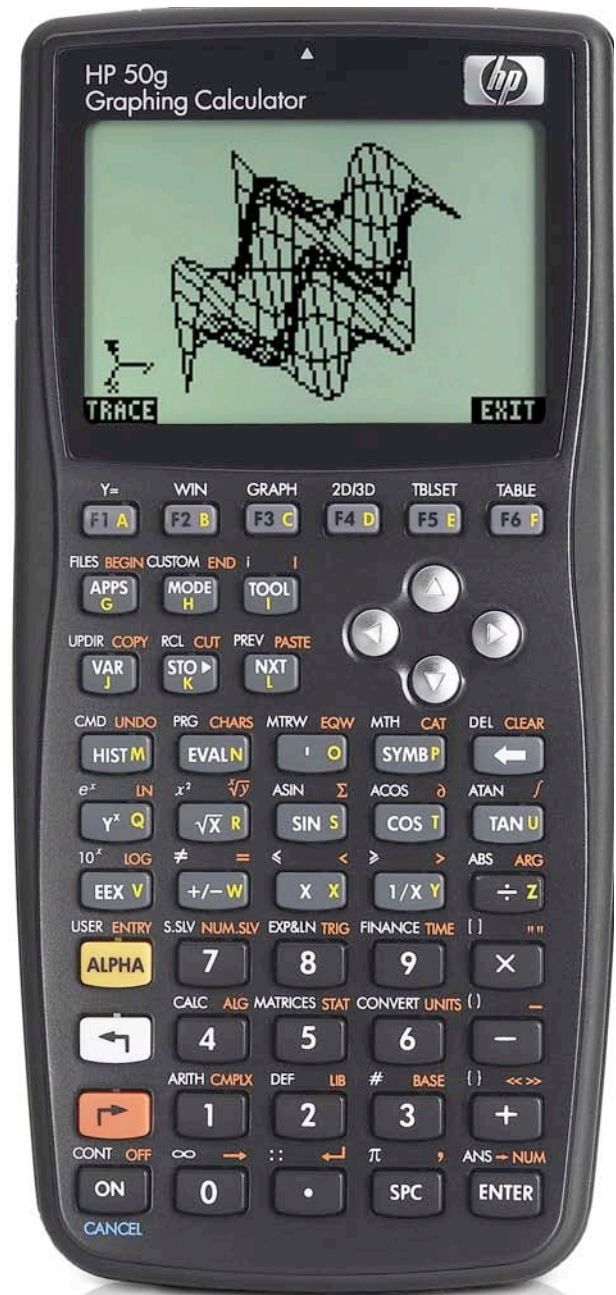
## hp calculators

HP 50g House Payment Calculations

The FINANCE menu

House Payments

Practice solving house payment calculation problems



**The FINANCE menu**

The Finance solver is accessed from the WHITE shifted function of the  $\boxed{9}$  key by pressing  $\boxed{\leftarrow}$  *FINANCE* . When pressed, a data entry form is displayed that is used to solve a number of financial math problems.

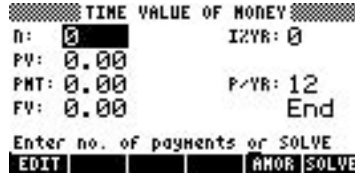


Figure 1

To solve problems using this display, move the cursor using the  $\boxed{\leftarrow}$ ,  $\boxed{\downarrow}$ ,  $\boxed{\uparrow}$ ,  $\boxed{\rightarrow}$  keys to each field and input its value, if known. To solve for the unknown value, move the cursor to the field for which you wish to solve, and press the  $\boxed{F6}$  key to register the choice of **SOLVE**, which is displayed above it. The value of the unknown will be calculated and displayed in the field. The solved value of the variable will be copied to the first level of the command stack in case further calculations with it are desired.

Variables will also be created whenever a value is stored in one of the financial fields or when it has been solved. These variables (N for example holds the value for n) can be seen in the  $\boxed{VAR}$  menu. When they are no longer needed, they can be deleted just like any other user-created variables. Values from a previous use of the financial solver remain until the variables holding them are deleted.

Several values are already present on this screen. The number of payments per year is set to 12 for monthly compounding, as shown to the right of the P/YR: in the screen above. If annual compounding is desired, this value should be changed to 1. If quarterly compounding is desired, this value should be changed to 4. Just below the P/YR: field, the calculator displays the word END, signifying that payments are assumed to occur at the end of each period, which would be the case for ordinary annuities. If payments are desired at the beginning of the period, as would be the case in an annuity due, this value can be changed by moving the cursor to this field. When the cursor is on this field, **CHOOSE** is displayed above the  $\boxed{F2}$  key, indicating the calculator will supply a list of choices (Begin or End) in a small CHOOSE box if this key is pressed. Note that Begin will be displayed as Beg if chosen. To exit from this data entry screen, press the  $\boxed{ON}$  key.

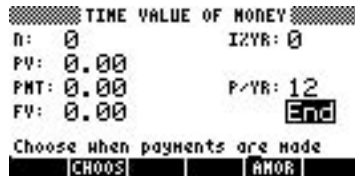


Figure 2

The HP 50g Financial solver follows the standard convention that money in is considered positive and money out is considered negative.

**House payments**

The payment required to pay off a house over time involves the solution of an ordinary annuity with the value of the payment as the unknown variable.

**Practice solving for house payments**

Example 1: Jill bought a house for \$210,000. Her 30-year loan will have an interest rate of 6%, compounded monthly. What is the size of her monthly house payment?

Solution:  $\boxed{\leftarrow}$  *FINANCE*  $\boxed{3}$   $\boxed{6}$   $\boxed{0}$   $\boxed{ENTER}$   $\boxed{6}$   $\boxed{ENTER}$   $\boxed{2}$   $\boxed{1}$   $\boxed{0}$   $\boxed{0}$   $\boxed{0}$   $\boxed{0}$   $\boxed{0}$   $\boxed{0}$   $\boxed{ENTER}$   $\boxed{\rightarrow}$   $\boxed{1}$   $\boxed{2}$   $\boxed{ENTER}$   
 $\boxed{0}$   $\boxed{ENTER}$   $\boxed{\leftarrow}$   $\boxed{\uparrow}$  **SOLVE**

## hp calculators

### HP 50g House Payment Calculations

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```
TIME VALUE OF MONEY
n: 360      I/YR: 6
PV: 210000.00
PMT: -1259.06  P/YR: 12
FV: 0.00      End
Enter payment amount or SOLVE
EDIT AMOR SOLVE
```

Figure 3

Answer: \$1,259.06

Example 2: Samantha bought a house for \$165,000. Her 15-year loan will have an interest rate of 5%, compounded monthly. What is the size of her monthly house payment?

Solution:  $\leftarrow$  FINANCE 1 8 0 ENTER 5 ENTER 1 6 5 0 0 0 ENTER  $\rightarrow$  1 2 ENTER  
0 ENTER  $\leftarrow$   $\uparrow$   $\leftarrow$

```
TIME VALUE OF MONEY
n: 180      I/YR: 5
PV: 165000.00
PMT: -1304.81  P/YR: 12
FV: 0.00      End
Enter payment amount or SOLVE
EDIT AMOR SOLVE
```

Figure 4

Answer: \$1,304.81

Example 3: Jeff bought a house for \$125,000 and financed it with a 20-year loan at a rate of 5.25%, compounded monthly. What is the size of Jeff's monthly house payment?

Solution:  $\leftarrow$  FINANCE 2 4 0 ENTER 5 . 2 5 ENTER 1 2 5 0 0 0 ENTER  $\rightarrow$  1 2 ENTER  
0 ENTER  $\leftarrow$   $\uparrow$   $\leftarrow$

```
TIME VALUE OF MONEY
n: 240      I/YR: 5.25
PV: 125000.00
PMT: -842.31  P/YR: 12
FV: 0.00      End
Enter payment amount or SOLVE
EDIT AMOR SOLVE
```

Figure 5

Answer: \$842.31