hp calculators

HP 48GII Property appreciation

The FINANCE menu

Property Appreciation

Practice solving property appreciation problems

The FINANCE menu

The Finance solver is accessed from the BLUE shifted function of the `9` key by pressing `←` *FINANCE* . When pressed, a data entry form is displayed that is used to solve a number of financial math problems.

```
▒▒▒▒▒▒▒TIME VALUE OF MONEY▒▒▒▒▒▒▒
n:   0            I%YR: 0
PV:  0.00
PMT: 0.00         P/YR: 12
FV:  0.00              End
Enter no. of payments or SOLVE
 EDIT                    AMOR SOLVE
```
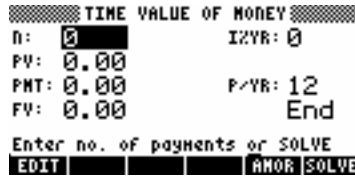Figure 1

To solve problems using this display, move the cursor using the `◀` `▼` `▲` `▶` 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 `F6` key to register the choice of ░░░░░, 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 `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, ░░░░░ is displayed above the `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 `ON` key.

```
▒▒▒▒▒▒▒TIME VALUE OF MONEY▒▒▒▒▒▒▒
n:   0            I%YR: 0
PV:  0.00
PMT: 0.00         P/YR: 12
FV:  0.00              End
Choose when payments are made
      CHOOS        AMOR
```
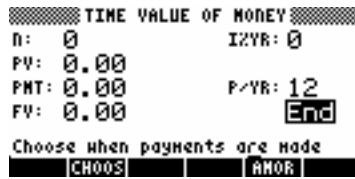Figure 2

The HP 48GII Financial solver follows the standard convention that money in is considered positive and money out is considered negative.

Property Appreciation

When the value of a piece of property increases over time, it has appreciated in value. If a value in the past is known, it is possible to solve the resulting compound interest problem to determine the rate of this appreciation.

Practice solving property appreciation problems

Example 1:   Greg bought a house 10 years ago for $120,000. He sold it last week for $180,000. On an annual basis, what was the compound rate of increase or appreciation?

Solution: `←` *FINANCE* `1` `0` `ENTER` `▶` `1` `2` `0` `0` `0` `0` `ENTER` `0` `ENTER` `1` `ENTER`
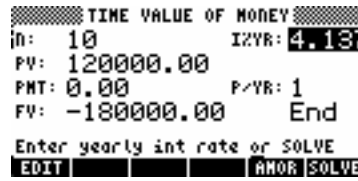`1` `8` `0` `0` `0` `0` `+/-` `ENTER` `▶` `▶` ░░░░░

Figure 3

Answer: An annual appreciation rate of 4.137%

Example 2: Johanna bought a house 5 years ago for $310,000. She sold it today for $400,000. At what rate, compounded monthly, did Johanna's house appreciate over this period?

Solution: ⟨←⟩ FINANCE ⟨6⟩⟨0⟩ ⟨ENTER⟩ ⟨▶⟩ ⟨3⟩⟨1⟩⟨0⟩⟨0⟩⟨0⟩⟨0⟩ ⟨ENTER⟩ ⟨0⟩ ⟨ENTER⟩ ⟨1⟩⟨2⟩ ⟨ENTER⟩
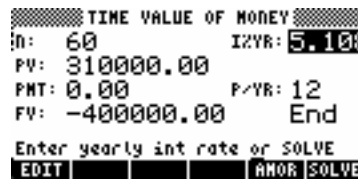⟨4⟩⟨0⟩⟨0⟩⟨0⟩⟨0⟩⟨0⟩ ⟨+/−⟩ ⟨ENTER⟩ ⟨▶⟩⟨▶⟩ SOLVE

Figure 4

Answer: An annual appreciation rate of 5.108%

Example 3: Howard bought some land 8 years ago for $800,000. He has an offer to sell it today for $1,400,000. What is the annual appreciation rate reflected by this offer?

Solution: ⟨←⟩ FINANCE ⟨8⟩ ⟨ENTER⟩ ⟨▶⟩ ⟨8⟩⟨0⟩⟨0⟩⟨0⟩⟨0⟩⟨0⟩ ⟨+/−⟩ ⟨ENTER⟩ ⟨0⟩ ⟨ENTER⟩ ⟨1⟩ ⟨ENTER⟩
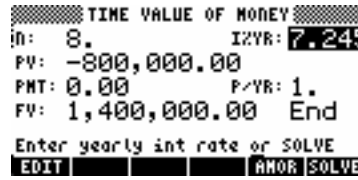⟨1⟩⟨4⟩⟨0⟩⟨0⟩⟨0⟩⟨0⟩⟨0⟩ ⟨ENTER⟩ ⟨▶⟩⟨▶⟩ SOLVE

Figure 5

Answer: The property appreciated at a rate of 7.245%, compounded annually.