

## PMT

[See Also](#)

Calculates the payment for a loan based on constant payments and a constant interest rate.

### Syntax

**PMT(rate,nper,pv,fv,type)**

For a more complete description of the arguments in PMT, see the PV function.

Rate is the interest rate for the loan.

Nper is the total number of payments for the loan.

Pv is the present value, or the total amount that a series of future payments is worth now; also known as the principal.

Fv is the future value, or a cash balance you want to attain after the last payment is made. If fv is omitted, it is assumed to be 0 (zero), that is, the future value of a loan is 0.

Type is the number 0 (zero) or 1 and indicates when payments are due.

### Set type equal to If payments are due

0 or omitted	At the end of the period
1	At the beginning of the period

### Remarks

- The payment returned by PMT includes principal and interest but no taxes, reserve payments, or fees sometimes associated with loans.
- Make sure that you are consistent about the units you use for specifying rate and nper. If you make monthly payments on a four-year loan at an annual interest rate of 12 percent, use 12%/12 for rate and 4\*12 for nper. If you make annual payments on the same loan, use 12 percent for rate and 4 for nper.

### Tip

To find the total amount paid over the duration of the loan, multiply the returned PMT value by nper.

### Example 1

The example may be easier to understand if you copy it to a blank worksheet.

### How?

- Create a blank workbook or worksheet.
- Select the example in the Help topic. Do not select the row or column headers.



Selecting an example from Help

- Press CTRL+C.
- In the worksheet, select cell A1, and press CTRL+V.
- To switch between viewing the results and viewing the formulas that return the results, press CTRL+` (grave accent), or on the **Tools** menu, point to **Formula Auditing**, and then click **Formula Auditing Mode**.

A	B
<b>1 Data</b>	<b>Description</b>
2 8%	Annual interest rate
3 10	Number of months of payments
4 10000	Amount of loan
<b>Formula</b>	<b>Description (Result)</b>
=PMT(A2/12, A3, A4)	Monthly payment for a loan with the above terms (-1,037.03)
=PMT(A2/12, A3, A4, 0, 1)	Monthly payment for a loan with the above terms, except payments are due at the beginning of the period (-1,030.16)

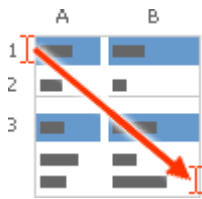
### Example 2

You can use PMT to determine payments to annuities other than loans.

The example may be easier to understand if you copy it to a blank worksheet.

▼ How?

1. Create a blank workbook or worksheet.
2. Select the example in the Help topic. Do not select the row or column headers.



Selecting an example from Help

3. Press CTRL+C.
4. In the worksheet, select cell A1, and press CTRL+V.
5. To switch between viewing the results and viewing the formulas that return the results, press CTRL+` (grave accent), or on the **Tools** menu, point to **Formula Auditing**, and then click **Formula Auditing Mode**.

A	B
<b>1 Data</b>	<b>Description</b>
2 6%	Annual interest rate
3 18	Years you plan on saving
4 50,000	Amount you want to have save in 18 years
<b>Formula</b>	<b>Description (Result)</b>
=PMT(A2/12, A3*12, 0, A4)	Amount to save each month to have 50,000 at the end of 18 years (-129.08)

**Note** The interest rate is divided by 12 to get a monthly rate. The number of years the money is paid out is multiplied by 12 to get the number of payments.