**Loan Calculator Use**

Use this loan calculator for a simple calculation of your monthly payment along with interest paid on the loan.

## Loan Payment Formula

To find the monthly payment we solve this equation for Payment; where n is number of months, and i is the interest rate per month in decimal form:

Payment=Loan Amount×i(1+i)n(1+i)n−1Payment=Loan Amount×i(1+i)n(1+i)n−1

### Example Loan Payment Calculation

Suppose you take a $20,000 loan for 5 years at 5% annual interest rate.

n = 5 × 12 = 60 months  
i = 5% / 100 / 12 = 0.004167 interest rate per month

Then using the formula with these values:

Payment=Amount×i(1+i)n(1+i)n−1Payment=Amount×i(1+i)n(1+i)n−1

=($20,000)(0.004167)(1+0.004167)60(1+0.004167)60−1=($20,000)(0.004167)(1+0.004167)60(1+0.004167)60−1

=$377.42=$377.42

### **Total Interest Paid on a Loan**

Total amount paid with interest is calculated by multiplying the monthly payment by total months. Total interest paid is calculated by subtracting the loan amount from the total amount paid. This calculation is accurate but not exact to the penny since, in reality, some actual payments may vary by a few cents.

$377.42 × 60 months = $22,645.20 total amount paid with interest  
$22,645.20 - $20,000.00 = 2,645.20 total interest paid