Loan EMI, Total Interest and Repayment

Equated monthly instalment (EMI) of a loan from the principal, annual interest rate and term, with the total repaid and the total interest, by the annuity formula.

Method: Annuity (capital recovery) formula

Input parameters

Unit system: SI

Parameter	Value	Unit
Loan amount (principal)	1,000,000	
Annual interest rate	9.0000	%
Term in years	5.0000	

Calculated results

Parameter	Value	Unit
Monthly instalment	20,758	
Number of monthly instalments	60.000	
Monthly rate r_a / 12	0.75000	%
Total repaid	1,245,501	
Total interest	245,501	

Notes for this case

- Reducing-balance loan, monthly rests, the rate fixed for the term. Processing fees and changes in rate are not included.

Formula and method

$$EMI = P\frac{r(1+r)^n}{(1+r)^n - 1}, \quad r = \frac{r_a}{12}, \; n = 12\,n_y$$

Variables

P	Loan amount (principal)	-
r_a	Annual interest rate	-
n_y	Term in years	-
EMI	Monthly instalment	-
n	Number of monthly instalments	-
r	Monthly rate r_a / 12	-
T	Total repaid	-
I	Total interest	-

Method and standards

Present value of an annuity.

Assumptions and limits

- Fixed rate, monthly rests.

References

- Annuity (capital recovery) formula

Report details

Report reference	FCC-MFN9-6XPE (the same inputs always give the same reference)
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Results are for engineering estimation. Verify critical designs against the referenced standards and your own data.

This calculator online

https://calc.firecad.com/general/economics/loan-emi

Open this case on calc.firecad.com →

Reopens the calculator with the inputs of this report.