



Hail Caesar

A Robust Roman Calculator
May 2020





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USER GUIDE

How to guide

Step 1

Open the program

Step 2

Enter opening parenthesis “(“ (if needed)

Select first value

(I = 1 , V = 5, X = 10, L = 50, C = 100, D = 500, M = 1000)

Step 3

Select your operator (+ - * ^)

Step 4

Select second value

(I = 1 , V = 5, X = 10, L = 50, C = 100, D = 500, M = 1000)

Step 5

If needed insert closing parenthesis “)” else repeat step 2 through 4 until all values and operators have been inputted.

Step 6

Once all values and operator have been selected press the calculate button “=“

ROMAN MATH GUIDE

How to guide

The **maximum number** supported by this calculator is

$$3,999 = \text{MMMCMXCIX}.$$

Rule 1

The Roman Numerals I, X, C and M can be repeated up to 3 times I in succession to form a valid number.

Rule 2

When a symbol is placed after a larger or equal symbol, the expression is added up to form a number.

Example:

The number 1,236 in Roman Numerals is MCCXXXVI

$$\begin{aligned} & \text{M} + \text{C} + \text{C} + \text{X} + \text{X} + \text{X} + \text{V} + \text{I} \\ & 1000 + 100 + 100 + 10 + 10 + 10 + 5 + 1 \end{aligned}$$

Rule 3

If a symbol appears before the symbol directly that comes directly after it in the list of basic symbols, is seen as subtraction.

Example:

The number 2,944 in Roman Numerals is MMCMXLIV.

$$\begin{aligned} & \text{It can be broken down as such:} \\ & \text{M} + \text{M} + (\text{M} - \text{C}) + (\text{L} - \text{X}) + (\text{V} - \text{I}) \\ & 1000 + 1000 + (1000 - 100) + (50 - 10) + (5 - 1) \end{aligned}$$

FREQUENTLY ASKED QUESTIONS

I typed in equation and nothing happened?

Make sure you have entered a valid expression. It should begin with a value or a parenthesis. Each numeral set must be followed by an operator (+,-,*,^)

Should I use parenthesis?

If you are writing an equation with more than two operators or an expression that uses exponents, it is most efficient to use parenthesis to separate your different values. Parenthesis can also set precedence. For example, (I+X)-V would compute (I+X) before subtracting V.

What does liquet mean?

Selecting this button clears the current value of the calculator. The previous equation and value will remain on the screen until you enter a new equation.

How long does the calculator retain value?

The calculator will retain the last calculated value in the \$ key.

How do I calculate an exponent?

Exponent are calculated right to left.

How many operators can I have?

You can have as many operators as you need.

What is the largest value I can compute?

Range of values allowed to be entered and outputted are between 1-3999.

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Quick Guide

Values

I \Rightarrow 1
V \Rightarrow 5
X \Rightarrow 10
L \Rightarrow 50
C \Rightarrow 100
D \Rightarrow 500
M \Rightarrow 1000

Operators

(\Rightarrow left parentheses
) \Rightarrow right parentheses
^ \Rightarrow Precedence from right to left.
Calculates from left to right .
Ex. 2^4^2 is evaluated 2^{16}

Liquet \Rightarrow Removes all current values.

\$ \Rightarrow Last calculated value
Can only be used once

Order of operations

Parentheses
Exponents
Multiplication
Addition
Subtraction

< \Rightarrow Deletes the last character input
* \Rightarrow Multiplication
+ \Rightarrow Addition
- \Rightarrow Subtraction

Not valid input: Consecutive operator i.e. ++, **, \$\$, --, ^^