

Roman Numerals (Maths for Primary & Secondary Students)

Learn. Play. Create

1 About Roman Numerals

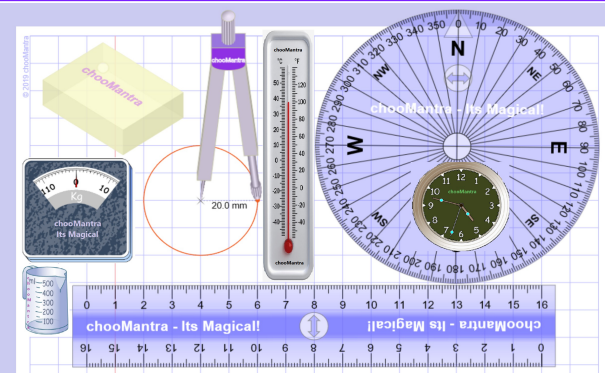
Roman numerals originated in **ancient Rome**. It was the only written numbering system used in **ancient Rome** and **Europe** until about **900 AD**, when the **Hindu Numerals** came into use through the **Arabs**. Roman Numerals have **7 digits (I, V, X, L, C, D, M)**. They were not just used for **counting/ recording the number of objects** but also the **order of people sharing the same name**. Although **addition and subtraction were easy, other arithmetic operations proved more difficult**. **Lack of an effective system for utilizing fractions and absence of the concept of zero, the cumbersome nature of the Roman numeral system**, while it served most of the needs of the Romans, **hindered future mathematical advances**.

2 Hindu Numerals replace Roman Numerals

Versatility of Hindu Numerals made it to replace Roman Numerals. **Hindu numeral system** is a positional decimal numeral system, and is the most common system for the symbolic representation of numbers in the world. It was **invented** between the 1st and 4th centuries by **Indian mathematicians**. The system was adopted in **Arabic mathematics** by the 9th century. Influential were the books of **Al-Khwārizmī** (On the Calculation with Hindu Numerals, c.825) and **Al-Kindi** (On the Use of the Hindu Numerals, c.830). The system later spread to medieval Europe by the High Middle Ages. The word decimal has its origin in **Sanskrit** word "**dasha**" meaning **10**.

"We owe a lot to the Indians, who taught us how to count, without which no worthwhile scientific discovery could have been made." - **Einstein**

3 Part of chooMantra Maths Initiative



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4 Roman Numeral Symbols

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

5 Roman Numerals Basic Combinations

HN	1	2	3	4	5	6	7	8	9	10
RN	I	II	III	IV	V	VI	VII	VIII	IX	X
HN	10	20	30	40	50	60	70	80	90	100
RN	X	XX	XXX	XL	L	LX	LXX	LXXX	XC	C
HN	100	200	300	400	500	600	700	800	900	1000
RN	C	CC	CCC	CD	D	DC	DCC	DCCC	CM	M

6 Roman Numerals Rules

- When a symbol appears **after** a larger or equal symbol, it is **added**.
e.g. DX -> 500+10 = 510; VII -> 5+1+1 = 7
- When a symbol appears **before** a larger symbol, it is **subtracted**. (Also, only one number can be subtracted from another.)
e.g. CD -> 500-100 = 400; IX -> 10-1 = 9
- Don't use** a symbol **more than three times in a row**.

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7 Convert given number to Roman Numerals

Break the number into 1s, 10s, 100s and 1000s, and write down each in turn.
e.g. Convert 1999 to Roman Numerals

1000	900	90	9
M	CM	XC	IX
MCMXCIX			

8 Roman Numerals Examples



9 Laplace on Hindu Numerals

"The ingenious method of expressing every possible number using a set of ten symbols (each symbol having a place value and an absolute value) emerged in India. The idea seems so simple nowadays that its significance and profound importance is no longer appreciated. Its simplicity lies in the way it facilitated calculation and placed arithmetic foremost amongst useful inventions. The importance of this invention is more readily appreciated when one considers that it was beyond the two greatest men of Antiquity, Archimedes and Apollonius."

- Pierre-Simon Laplace

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10 Roman Numerals Techniques & Notes


Mnemonic to remember Roman Numerals Symbols **I, V, X, L, C, D** and **M**
If Victor's X-ray Looks Clear Don't Medicate

I, V, X, L, C, D and **M** stand for **1, 5, 10, 50, 100, 500, 1000**
(1, 5, 1*10, 5*10, 1*100, 5*100, 1*1000)

I = 1 ; C is 100 as in a **Century**; **M is 1000** as in **Millennium**

Note : In earlier Roman Numerals - before introduction of subtraction notation - 4 was written as IIII and not IV

11 Alexa Country Capital Quiz

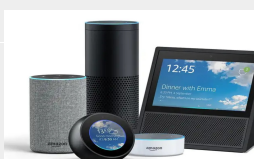


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12 Instructions to Enable and use Alexa Skill

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In Alexa app menu, select Skills. Search "Country Capital Quiz RajeevGM". Click on the skill displayed and click on "Enable Skill".	Use Skill
OR visit http://bit.do/AlexaCountryCapitalQuiz And click on "Enable Skill". You will need to be logged into Alexa account	After enabling the skill, switch on Alexa enabled device. Once ready say " Alexa, Launch Country Capital Quiz "

Give a man a bowl of rice, you feed him for a day. Teach him farming, you feed him for life.

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