

Roman Numerals

We have already learnt that Roman numerals were developed by Romans many centuries ago. Roman numerals are used even today.

The Roman numeral system uses seven basic symbols to write the numbers. These symbols are used in different combinations to write various numbers. The Roman numeral system does not follow place value system. Also, there is no symbol for 0 in this system of numeration.



Roman numerals	1	V	Х	L	C	D	M
Hindu-Arabic numerals	1	5	10	50	100	500	1000

List four places where Roman numerals are used.

Activity-1

Do you remember ...

141	AV. 2				
1.	Write each	of the fo	ollowing	in Roman	numerals

- (a) 9
- (b) 12
- (c) 23
- (d) 28
- (e) 30
- (f) 37

- (g) 39
- (h) 45
- (i) 56
- (j) 61
- (k) 74
- (1) 99

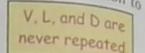
2. Write each of the following in Hindu-Arabic numerals:

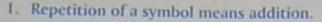
- (a) VI
- (b) XIII
- (c) XXIV
- (d) XXXI
- (e) XL
- (f) LXI

- (g) LXX
- (h) LXXVII
- (i) LXXXI
- (j) LXXXVIII
- (k) XCV
- (I) C

Rules for Writing Roman Numerals

The seven basic symbols are used in different combinations involving addition and subtraction to form numbers.

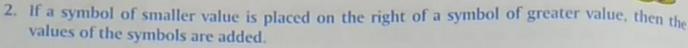




Examples: III =
$$1 + 1 + 1 = 3$$

 $XX = 10 + 10 = 20$

Repetition of a symbol is not allowed more than three times.



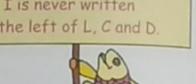
Examples: VI =
$$5 + 1$$
 = 6 LX = $50 + 10$ = 60 CXX = $100 + 10 + 10$ = 120 MC = $1000 + 100$ = 1100

3. If a symbol of smaller value is placed on the left of a symbol of greater value, then the values of the symbols are subtracted.

Examples:
$$IX = 10-1 = 9$$

 $XC = 100-10 = 90$
 $XL = 50-10 = 40$
 $CM = 1000-100 = 900$

V, L and D are never subtracted.
 I is never written
 on the left of L, C and D.



- 4. (a) Symbol I can be added to and subtracted only from V and X.
 - (b) Symbol X can be added to L, C, M and subtracted only from L and C.
 - (c) Symbol C can be added to and subtracted only from D and M.

Let us learn to write Roman numerals beyond 100.

Example 1: Write each of the following in Roman numerals:

(a)
$$109 = 100 + 9 = C + IX = CIX$$

(b)
$$400 = 500 - 100 = D - C = CD$$

(c)
$$864 = 800 + 60 + 4 = DCCC + LX + IV = DCCCLXIV$$

Example 2: Write each of the following in Hindu-Arabic numerals:

(a)
$$CXLVI = C + XL + VI = 100 + 40 + 6 = 146$$

(b)
$$CXLIX = C + XL + IX = 100 + 40 + 9 = 149$$

(c)
$$MCCXV = M + CC + XV = 1000 + 200 + 15 = 1215$$

If a symbol of smaller value is placed between two symbols of greater values, it is always subtracted from the symbol succeeding it.



Activity-2

1.	Wr	ite the follo	wing	in Romai	nun	nerals:					
	(a)	95	(b)	130	(c)	163	(d)	212	(e)	289	
	(f)	334	(g)	467	(h)	579	(i)	1038	(j)	1256	
2.	Wr	ite the follo	wing	in Hindu	Arab	ic numer	als:				
	(a)	XLIII	(b)	LXIX	(c)	CXXXV	(d)	CLXII		CXC	
	(f)	CCXXII	(g)	CCLXXXII	(h)	DXIII	(i)	MDXXV	(j)	DCCLXII	
3.	Cir	cle the incor	rect	Roman n	umer	als:					
		VVV		XXX		CCCVIII		DDD			
		IL		VVI		DDX		CIX			
9				80-		-1.00-	41		_		1
				IME	ent	ai Ma	ths (Corne	r		
1.	Tic	k (✓) the co	rreci	answer:							
	(a)	69 is writte	en in	Roman nu	ımera	al as					_
		(i) LII		(ii) 1	XIX		(iii) LXXI		(iv) LXX	
	(b)	CXCI is									
	(-)	(i) 192		(ii)			(iii) 191		(iv) 181	
	(C)	Which of the (i) XLIX	he to	-		ningless?				The year	
2	Cr.			(ii) 1	.11		[(m) LIL		(iv) XCVI	Ш
2.	2. State true (T) or false (F).										
		40 = XXXX									
	(b)	There is no	syn	abol for 0	in the	e Roman r	numeral	system.			
	(c)	LXXXIX >	· XC								
	(d)	M is used t	о ге	present 10	000.						
	(e)	149 is writ	ten a	s CLIVIX.							
3.	Con	mpare the fe	ollov	ving Roma	an nu	merals a	nd use >	>. < or =	-		
		XLIX		7	XI		XC		7	CX	
		-		=					1		
	(C)	CXCIII	_		(CIII	(d)	DCVII		1	CDVII	
	(e)	CLXXV		()	(LV	(f)	MCII			CMII	

Review Exercise

1. Write the equivalent Roman numeral:

2. Match the following:

604	CCII
118	CCCLXVI
202	DXLV
457	DCIV
189	MXXIX
366	CXVIII
545	CLXXXIX
1029	CDLVII

HOTS Question

Write the greatest number using Roman numerals C, L, V, X, I only once.

Maths Lab Activity

Prepare the following arrangements with matchsticks. Rearrange only one matchstick to come these statements.