



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	I	V	X	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 ...

1. Write each of the following 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 | (l) 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 | (l) C |

Rules for Writing Roman Numerals

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

Note: 1)

V, L, and D are never repeated.



1. Repetition of a symbol means addition.

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

$XX = 10 + 10 = 20$

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

2. If a symbol of smaller value is placed on the right of a symbol of greater value, then the values of the symbols are added.

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: $IX = 10 - 1 = 9$

$XC = 100 - 10 = 90$

$XL = 50 - 10 = 40$

$CM = 1000 - 100 = 900$

2) 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.

Examples: $VII = 5 + 1 + 1 = 7$

$XL = 50 - 10 = 40$

$CD = 500 - 100 = 400$

$CX = 100 + 10 = 110$

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

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

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



Activity-2

1. Write the following in Roman numerals :

- | | | | | |
|---------|---------|---------|----------|----------|
| (a) 95 | (b) 130 | (c) 163 | (d) 212 | (e) 289 |
| (f) 334 | (g) 467 | (h) 579 | (i) 1038 | (j) 1256 |

2. Write the following in Hindu-Arabic numerals :

- | | | | | |
|------------|--------------|-----------|-----------|-------------|
| (a) XLIII | (b) LXIX | (c) CXXXV | (d) CLXII | (e) CXC |
| (f) CCXXII | (g) CCLXXXII | (h) DXIII | (i) MDXXV | (j) DCCLXII |

3. Circle the incorrect Roman numerals :

- | | | | |
|-----|-----|---------|-----|
| VVV | XXX | CCCVIII | DDD |
| IL | VVI | DDX | CIX |

Mental Maths Corner

1. Tick (✓) the correct answer :

(a) 69 is written in Roman numeral as

- | | | | | |
|---------|------------------------------------|-------------------------------------|-----------------------------------|--------------------------|
| (i) LII | <input type="checkbox"/> (ii) LXIX | <input type="checkbox"/> (iii) LXXI | <input type="checkbox"/> (iv) LXX | <input type="checkbox"/> |
|---------|------------------------------------|-------------------------------------|-----------------------------------|--------------------------|

(b) CXCI is

- | | | | | |
|---------|-----------------------------------|------------------------------------|-----------------------------------|--------------------------|
| (i) 192 | <input type="checkbox"/> (ii) 190 | <input type="checkbox"/> (iii) 191 | <input type="checkbox"/> (iv) 181 | <input type="checkbox"/> |
|---------|-----------------------------------|------------------------------------|-----------------------------------|--------------------------|

(c) Which of the following is meaningless?

- | | | | | |
|----------|-----------------------------------|------------------------------------|------------------------------------|--------------------------|
| (i) XLIX | <input type="checkbox"/> (ii) LII | <input type="checkbox"/> (iii) LIL | <input type="checkbox"/> (iv) XCVI | <input type="checkbox"/> |
|----------|-----------------------------------|------------------------------------|------------------------------------|--------------------------|

2. State true (T) or false (F).

(a) $40 = XXXX$.

(b) There is no symbol for 0 in the Roman numeral system.

(c) $LXXXIX > XC$.

(d) M is used to represent 1000.

(e) 149 is written as CLIVIX.

3. Compare the following Roman numerals and use $>$, $<$ or $=$:

- | | | | | | |
|------------|----------------------|--------|-----------|----------------------|-------|
| (a) XLIX | <input type="text"/> | LXXI | (b) XC | <input type="text"/> | CX |
| (c) CXCIII | <input type="text"/> | CXCIII | (d) DCVII | <input type="text"/> | CDVII |
| (e) CLXXV | <input type="text"/> | CXLV | (f) MCII | <input type="text"/> | CMII |

Review Exercise

1. Write the equivalent Roman numeral :

(a) $L - IX =$ _____

(c) $XC - XXI =$ _____

(e) $M - DXVI =$ _____

(b) $XLII + XXIX =$ _____

(d) $DL + CC =$ _____

(f) $MCC + CL =$ _____

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 correct these statements.

$$LXIX + VI = LXII$$

$$XXIII - X = XXXII$$

$$XLVI - IV = LI$$

$$LX + IV = LV$$

$$LX + XI = LXIX$$