



# Roman Numerals

In the last class, you have read about Roman numerals. These numerals were used by the people of Rome. The basic numerals were 7 in number, which are as follows :

Romans Numerals	I	V	X	L	C	D	M
Hindu-Arabic Numerals	1	5	10	50	100	500	1000

Romans had no knowledge of zero and hence, they had no symbol for it.

**Important :** In this class, we shall study I, V, X, L and C. By their help, we can write Roman numerals for 1 to 399 Hindu Arabic numerals.

## Rules of Forming Roman Numerals ●

- By writing I, X and C each, once, twice and thrice increases its value by one time, two times and three times respectively, such as :

$$I = 1$$

$$X = 10$$

$$C = 100$$

$$II = 2$$

$$XX = 20$$

$$CC = 200$$

$$III = 3$$

$$XXX = 30$$

$$CCC = 300$$

**Remember**

No numeral can be written more than three times in a number.

- V and L numerals can be written only once in a number.
- To write a smaller numeral after a bigger numeral means to add them both, such as :

$$VI = 6 \quad \rightarrow \quad (V + I = 5 + 1 = 6)$$

$$XV = 15 \quad \rightarrow \quad (X + V = 10 + 5 = 15)$$

$$CX = 110 \quad \rightarrow \quad (C + X = 100 + 10 = 110)$$

$$XI = 11 \quad \rightarrow \quad (X + I = 10 + 1 = 11)$$

$$LX = 60 \quad \rightarrow \quad (L + X = 50 + 10 = 60)$$

$$CL = 150 \quad \rightarrow \quad (C + L = 100 + 50 = 150)$$

- To write a smaller numeral before a bigger number means to subtract it, but :

- I can be subtracted only once from V and X, such as :

$$IV = 5 - 1 = 4 \quad IX = 10 - 1 = 9$$

- X can be subtracted only once from L and C, such as :

$$XL = 50 - 10 = 40 \quad XC = 100 - 10 = 90$$

- V, L and D cannot be subtracted.

The above description makes it clear that it is very difficult to write large numbers by using Roman numerals. That's why they are not popular. Today, Hindu-Arabic numerals are used all over the world.

In the given table, are shown the Roman numerals from 1 to 100. Read, understand and practise to write them.

### Roman Numbers from 1 to 100

I	XI	XXI	XXXI	XLI	LI	LXI	LXXI	LXXXI	XCI
II	XII	XXII	XXXII	XLII	LII	LXII	LXXII	LXXXII	XCII
III	XIII	XXIII	XXXIII	XLIII	LIII	LXIII	LXXIII	LXXXIII	XCIII
IV	XIV	XXIV	XXXIV	XLIV	LIV	LXIV	LXXIV	LXXXIV	XCIV
V	XV	XXV	XXXV	XLV	LV	LXV	LXXV	LXXXV	XCV
VI	XVI	XXVI	XXXVI	XLVI	LVI	LXVI	LXXVI	LXXXVI	XCVI
VII	XVII	XXVII	XXXVII	XLVII	LVII	LXVII	LXXVII	LXXXVII	XCVII
VIII	XVIII	XXVIII	XXXVIII	XLVIII	LVIII	LXVIII	LXXVIII	LXXXVIII	XCVIII
IX	XIX	XXIX	XXXIX	XLIX	LIX	LXIX	LXXIX	LXXXIX	XCIX
X	XX	XXX	XL	L	LX	LXX	LXXX	XC	C

#### Some Other Examples ●

**Example 1 :** Write the following Hindu-Arabic numbers in Roman numerals :

- (a) 14      (b) 26      (c) 31      (d) 45      (e) 99      (f) 123

**Solution :**

$\begin{aligned} \text{(a) } 14 &= 10 + 4 \\ &= X + IV \\ &= XIV \end{aligned}$	$\begin{aligned} \text{(b) } 26 &= 20 + 6 \\ &= XX + VI \\ &= XXVI \end{aligned}$	$\begin{aligned} \text{(c) } 31 &= 30 + 1 \\ &= XXX + I \\ &= XXXI \end{aligned}$
$\begin{aligned} \text{(d) } 45 &= 40 + 5 \\ &= XL + V \\ &= XLV \end{aligned}$	$\begin{aligned} \text{(e) } 99 &= 90 + 9 \\ &= XC + IX \\ &= XCIX \end{aligned}$	$\begin{aligned} \text{(f) } 123 &= 100 + 20 + 3 \\ &= C + XX + III \\ &= CXXIII \end{aligned}$

**Example 2 :** Write the following Roman Numerals in Hindu-Arabic numbers :

- (a) LXII      (b) CCC      (c) XXXVIII      (d) CLV      (e) CCLVII      (f) CCLXIX

**Solution :**

$\begin{aligned} \text{(a) } LXII &= LX + II \\ &= 60 + 2 \\ &= 62 \end{aligned}$	$\begin{aligned} \text{(b) } CCC &= C + C + C \\ &= 100 + 100 + 100 \\ &= 300 \end{aligned}$	$\begin{aligned} \text{(c) } XXXVIII &= XXX + VIII \\ &= 30 + 8 \\ &= 38 \end{aligned}$
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$$\begin{aligned} \text{(d) CLV} &= C + L + V \\ &= 100 + 50 + 5 \\ &= 155 \end{aligned}$$

$$\begin{aligned} \text{(e) CCLVII} &= C+C+L+VII \\ &= 100 + 100 + 50 + 7 \\ &= 257 \end{aligned}$$

$$\begin{aligned} \text{(f) CCLXIX} &= C+C+LX+IX \\ &= 100 + 100 + 60 + 9 \\ &= 269 \end{aligned}$$



### Exercise 3

#### 1. Write the following Hindu-Arabic Numbers in Roman Numerals :

- (a) 8                      (b) 16                      (c) 25                      (d) 46                      (e) 125  
 (f) 127                      (g) 336                      (h) 333                      (i) 246                      (j) 366

#### 2. Write the following Roman Numerals in Hindu-Arabic Numbers :

- (a) LXII                      (b) CXXVIII                      (c) CXXXV                      (d) CLXXVI                      (e) CCXLVI  
 (f) CCCLXIX                      (g) CLXXXVII                      (h) CCLVIII                      (i) XLIX                      (j) CLXIX

#### 3. Write < or > in the boxes :

- (a) CCXLVI  CCLV                      (b) CCCXXVII  CLXIX                      (c) CXXXV  CXLIII  
 (d) CXLI  CXXXVIII                      (e) LXXIII  XLV                      (f) CXC  CCXCIX

#### 4. Add the following :

- (a) VII + II                      (b) VIII + III                      (c) XV + III                      (d) XIX + III  
 (e) XLIX + II                      (f) XXX + X                      (g) LIII + X                      (h) XC + X

#### 5. Tick (✓) the correct Roman Numerals for the given Hindu-Arabic Numbers :

- (a) 49 = LIX  XLIX  IL                       (b) 90 = LXXXX  XC  XLL   
 (c) 99 = IC  XCIX  ILL