# MATHEMATICS
## ROMAN NUMERALS



**ONLINE CLASS**

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**LESSON**
**PART 1**

# 2 ROMAN NUMERALS

**A. Write the following numbers in Hindu–Arabic numerals.**

1.  XVI      2.  LX      3.  XC      4.  XXIX

**B. Write the following numbers in Roman-form.**

1.  36      2.  89      3.  58      4.  76

We have already learnt that the Roman empire used different symbols for counting numbers. The Romans used seven different symbols in various combinations according to a set of rules. Roman numerals have been passed down through the centuries and are used even today.

There are seven basic Roman numerals. These are : **I  V  X  L  C  D  M**

The ten basic Indo-Arabic numerals are : **1,  2,  3,  4,  5,  6,  7,  8,  9,  0**

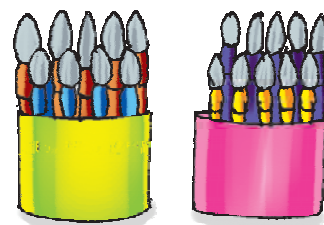Some basic Roman numerals and their Indo-Arabic equivalents are :

| Roman Numerals | I | V | X | L | C | D | M |
|---|---|---|---|---|---|---|---|
| Indo-Arabic Values | 1 | 5 | 10 | 50 | 100 | 500 | 1000 |

## RULES FOR WRITING ROMAN NUMERALS

We follow some basic rules for writing Roman numerals. These are :

**Rule 1 : The 7 basic symbols can be used in different combinations involving addition or subtraction to form numbers.**

**Example :** II    =    1 + 1      = 2

           XX =    10 + 10    = 20

           IV  =    5 – 1        = 4 (I is on the left)

**Rule 2 : Symbols I, X, C, M can be repeated 3 times at any one given time. Symbols V, L, D can be used only once at any one instance.**

**Example :** III       =    1 + 1 + 1 = 3

16

XXX    =    10 + 10 + 10 = 30

CCC    =    100 + 100 + 100 = 300

MMM   =    1000 + 1000 + 1000 = 3000

*Only I, X, C are used for both addition and subtraction.*

**Rule 3 :** **When the smaller symbol is placed on the right of the bigger symbol, then we add the symbols.**

**Example :** XI    =    10 + 1 = 11

CX   =    100 + 10 = 110

MC   =    1000 + 100 = 1100

**Rule 4 :** **When the smaller symbol is placed on left of the bigger symbol, then we subtract.**

**Example :** IX    =    10 – 1 = 9

XC   =    100 – 10 = 90

CM   =    1000 – 100 = 900

**Rule 5 :** **Symbol I can be added to or subtracted from the next two symbols V, X only.**

**Example :** IV    =    5 – 1 = 4

VI    =    5 + 1 = 6

IX    =    10 – 1 = 9

XI    =    10 + 1 = 11

**Rule 6 :** **Symbol X can be added to or subtracted from the next two symbols L, C only.**

**Example :** XL   =    50 – 10 = 40

LX   =    50 + 10 = 60

XC   =    100 – 10 = 90

CX   =    100 + 10 = 110

**Rule 7 :** **Symbol C can be added or subtracted from the next two symbols D, M only.**

**Example :** CD   =    500 – 100 = 400

DC   =    500 + 100 = 600

CM   =    1000 – 100 = 900

MC   =    1000 + 100 = 1100

# Exercise 2.1

**A. Write the Roman numerals for the following.**

1. 30 = ⬡
2. 45 = ⬡
3. 200 = ⬡
4. 310 = ⬡
5. 11 = ⬡
6. 71 = ⬡
7. 500 = ⬡
8. 24 = ⬡
9. 55 = ⬡
10. 46 = ⬡
11. 1200 = ⬡
12. 350 = ⬡

**B. Write the Indo-Arabic numerals for the following.**

1. DCL = ⬡
2. XXII = ⬡
3. XLI = ⬡
4. LXXV = ⬡
5. XC = ⬡
6. XXXIV = ⬡
7. XCIX = ⬡
8. MMMD = ⬡
9. CCCIX = ⬡
10. LVI = ⬡
11. MCCIV = ⬡
12. CDXXII = ⬡

**C. Find out the answers for the following.**

1. Is XCV lesser or greater than 90 ?
2. Is DL lesser or greater than 595 ?
3. Is DCCIX lesser or greater than 700 ?
4. Is CDLXX lesser or greater than 525 ?
5. Is LXVI lesser or greater than 60 ?
6. Is CCXL lesser or greater than 210 ?

## READING LARGER ROMAN NUMERALS

To understand bigger Roman numerals, we follow the rules and break the number up like this :

**Example : Write CMLXXXII in Indo-Arabic numerals.**

Step 1 : CM + LXXX + II

18

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Step 2 : CM = 1000 – 100 = 900

Step 3 : LXXX = 50 + 10 + 10 + 10 = 80

Step 4 : II = 1 + 1 = 2

Therefore, CMLXXXII = 900 + 80 + 2 = 982

## Exercise 2.2

### A. Write the Indo-Arabic numerals for the following.

1. MCMXLIV [ ]      2. MMCDXX [ ]      3. LXXIX [ ]

4. MCMV [ ]      5. CCXCIX [ ]      6. MMCDXX [ ]

7. DCCLXVI [ ]      8. MDXXV [ ]      9. MMCDLIX [ ]

### B. Write the Roman numerals for the following.

1. 2010 = [ ]      2. 2534 = [ ]      3. 3250 = [ ]

4. 1971 = [ ]      5. 1603 = [ ]      6. 2006 = [ ]

7. 1954 = [ ]      8. 1320 = [ ]      9. 2919 = [ ]

### C. Cross out the wrongly written Roman numerals.

1. VVV = [ ]      2. XI = [ ]      3. LLIV = [ ]

4. XM = [ ]      5. CCCL = [ ]      6. DDD = [ ]

7. XXII = [ ]      8. LC = [ ]      9. ICC = [ ]

10. CCCVI = [ ]      11. MCCCIX = [ ]      12. XLIX = [ ]

### D. Fill in the circles with >, < or =

1. CMDVI ( ) 474      2. MMMDVII ( ) 2744

3. MMDIX ( ) 2509      4. 714 ( ) DCCXIV

5. MDIX ( ) CMXLII      6. MXIV ( ) MDXXII

I5MS

**Match the following Roman numerals with the Indo-Arabic numerals.**

| | | |
|---|---|---|
| 1. | CMLXXVIII | 109 |
| 2. | MCCL | 2322 |
| 3. | XXXIV | 1344 |
| 4. | CIX | 642 |
| 5. | DCXLII | 449 |
| 6. | MMCCCXXII | 768 |
| 7. | CCCL | 34 |
| 8. | DCCLXVIII | 1250 |
| 9. | MCCCXLIV | 350 |
| 10. | CDXLIX | 978 |

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# MATHS LAB

**Objective :** To play with Roman numerals

**Materials Required :** Roman numeral cards from the Math kit

| I | V | X | L | C | D | M |
|---|---|---|---|---|---|---|

**Steps :**

1.  Write your name in capital letters.

    **Example :** SOURAV

2.  Give numeral values to each alphabet like A = 1, B = 2, C = 3 .... Z = 26.

3.  Find the numeral value for the name.

    S + O + U + R + A + V

    19 + 15 + 21 + 18 + 1 + 22 = 96

4.  Use Roman numeral cards from the kit and express the number in Roman numerals in the given box.

    96 = XCVI

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