

# Roman Numerals

About two thousand years ago, the Romans developed a system of numeration which was entirely different from Indo-Arab numerals, such as 0, 1, 2, 3, 4, 5, 6, 7, 8, 9. The Romans used seven letters of the alphabet as basic symbols to write any number.

They are : I, V, X, L, C, D and M.

The above symbols respectively stand for 1, 5, 10, 50, 100, 500 and 1000.

We shall learn the use of first four symbols i.e. I, V, X and L in this class. It is to be noted that there is no zero in the Roman system and also this system does not use place value.

## Rules to represent numerals in Roman System

- (i) Repetition of I and X upto two steps only meaning addition.

For examples (a)  $II = 1 + 1 = 2$

(b)  $III = 1 + 1 + 1 = 3$

(c)  $XX = 10 + 10 = 20$

(d)  $XXX = 10 + 10 + 10 = 30$

**Caution:** V, L and D are never repeated.

- (ii) If a smaller number is written to the right of a large one, the smaller is added to the larger.

For example:

(a)  $VI = 5 + 1 = 6$

(b)  $VII = 5 + 1 + 1 = 7$

(c)  $VIII = 5 + 1 + 1 + 1 = 8$

(d)  $XI = 10 + 1 = 11$

(e)  $XII = 10 + 1 + 1 = 12$

(f)  $XIII = 10 + 1 + 1 + 1 = 13$

(g)  $XV = 10 + 5 = 15$

(h)  $XVI = 10 + 5 + 1 = 16$

(i)  $XVII = 10 + 5 + 1 + 1 = 17$

(j)  $XVIII = 10 + 5 + 1 + 1 + 1 = 18$

- (iii) If I is written to the left of V or X, it is subtracted.

For example: (a)  $IV = 5 - 1 = 4$

(b)  $IX = 10 - 1 = 9$

**Caution:** V is never written to the left of X.

- (iv) When a smaller number is placed between two numbers of greater value, it is always subtracted from the greater number immediately following it :

For example:

(a)  $XIX = 10 + (10 - 1) = 10 + 9 = 19$

(b)  $XIV = 10 + (5 - 1) = 10 + 4 = 14$

(c)  $XXIX = 10 + 10 + (10 - 1) = 10 + 10 + 9 = 29$

(d)  $XXIV = 10 + 10 + (5 - 1) = 10 + 10 + 4 = 24$

- Note :** (1) Symbol I can be subtracted from V and X.  
 (2) Symbol X can be subtracted from L and C.  
 (3) Symbol C can be subtracted from D and M.  
 (4) Symbols V, L and D are never subtracted.

Study the chart that shows Indo-Arab and corresponding Roman Numerals from 1 to 50.

Indo-Arab Numerals	Roman Numerals	Indo Arab Numerals	Roman Numerals	Indo Arab Numerals	Roman Numerals	Indo Arab Numerals	Roman Numerals	Indo Arab Numerals	Roman Numerals
1	I	11	XI	21	XXI	31	XXXI	41	XLI
2	II	12	XII	22	XXII	32	XXXII	42	XLII
3	III	13	XIII	23	XXIII	33	XXXIII	43	XLIII
4	IV	14	XIV	24	XXIV	34	XXXIV	44	XLIV
5	V	15	XV	25	XXV	35	XXXV	45	XLV
6	VI	16	XVI	26	XXVI	36	XXXVI	46	XLVI
7	VII	17	XVII	27	XXVII	37	XXXVII	47	XLVII
8	VIII	18	XVIII	28	XXVIII	38	XXXVIII	48	XLVIII
9	IX	19	XIX	29	XXIX	39	XXXIX	49	XLIX
10	X	20	XX	30	XXX	40	XL	50	L

## Exercise 1

1. Write the corresponding Roman Numeral for each of the following.

- |        |        |        |        |
|--------|--------|--------|--------|
| (a) 7  | (b) 9  | (c) 5  | (d) 11 |
| (e) 18 | (f) 20 | (g) 24 | (h) 27 |
| (i) 29 | (j) 36 | (k) 38 | (l) 40 |
| (m) 43 | (n) 49 | (o) 39 |        |

2. Write the corresponding Indo-Arab Numeral for each of the following.

- |            |         |           |             |
|------------|---------|-----------|-------------|
| (a) XXIV   | (b) XIX | (c) XV    | (d) XXXVIII |
| (e) XLIX   | (f) XLV | (g) XXVI  | (h) XXIX    |
| (i) XLVI   | (j) XL  | (k) XXXVI | (l) XXX     |
| (m) XXXVII | (n) L   | (o) XLIV  |             |

3. Compare each of the following using '>' or '<' in the space provided.

- |                       |                       |                        |
|-----------------------|-----------------------|------------------------|
| (a) IV ..... VI       | (b) XI ..... IX       | (c) XV ..... XIV       |
| (d) XXVI ..... XXIV   | (e) XVI ..... XXVI    | (f) XXXVI ..... L      |
| (g) XLVI ..... XLIV   | (h) XLII ..... L      | (i) XLIX ..... XXXVIII |
| (j) XL ..... XXXIX    | (k) XXVIII ..... XLI  | (l) XLV ..... XLVI     |
| (m) XXVII ..... XXXIX | (n) XLVIII ..... XLIX | (o) L ..... XXXIX      |

