



2

ROMAN NUMBERS

0 + 1 - 7 × 2 ÷ 5

Exercise-2.1

1. Write the Roman numeral for each of the following Hindu-Arabic numerals :

- | | | | |
|--------|--------|--------|--------|
| (a) 44 | (b) 38 | (c) 35 | (d) 87 |
| (e) 99 | (f) 54 | (g) 85 | (h) 69 |

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

- | | | | |
|------------|-------|-------------|-------|
| (a) XXIX | _____ | (b) XCIV | _____ |
| (c) XLIX | _____ | (d) LXXVIII | _____ |
| (e) XXXVII | _____ | (f) LV | _____ |
| (g) XCI | _____ | (h) XLV | _____ |

3. Compare and put the correct symbol $>$, $<$ or $=$.

- | | |
|---------------------|---------------------|
| (a) IV _____ VI | (b) LXII _____ XLII |
| (c) XCIX _____ C | (d) XLV _____ XLV |
| (e) XXXIII _____ XL | (f) XCIII _____ C |

4. Arrange in ascending order :

- | | |
|--------------------------|-------|
| (a) XXV, XX, XVIII, XXII | _____ |
| (b) XL, LI, XLIV, LX | _____ |

5. Arrange in descending order :

- | | |
|--------------------------|-------|
| (a) V, IV, IX, VIII | _____ |
| (b) XX, XXIII, XIX, XXII | _____ |

ROMAN NUMBER FROM I TO 1000:

You have already studied about the formation of smaller Roman numbers in your previous class.

We use seven symbols – I, V, X, L, C, D and M to form different Roman numbers. As you know that I means 1, V means 5, X means 10, L means 50, C means 100, D means 500 and M means 1000.

Bigger Roman numbers are also expressed in the same way as we express smaller Roman numbers. For example, 999 is expressed as **CMXCIX**.

$$(CMXCIX = CM + XC + IX = 900 + 90 + 9)$$

CONVERSION OF HINDU-ARABIC NUMBERS INTO ROMAN

NUMBERS AND ROMAN NUMBERS INTO HINDU-ARABIC :



- (a) If we have to represent 489 in Roman number system, we write CDLXXXIX.
 $CDLXXXIX = CD + LXXX + IX = 400 + 80 + 9$
- (b) The symbol I, X, C or M cannot be repeated more than three times. But V, L and D can never be repeated.

For example : $LIII = 50 + 3 = 53$

$$LXXX = 50 + 30 = 80$$

$$DCCC = 500 + 300 = 800$$

- (c) If a symbol of smaller value is written on the left of a symbol of bigger value, then it is subtracted.

For example : $XL = 50 - 10 = 40$

$$IV = 5 - 1 = 4$$

$$CD = 500 - 100 = 400$$

But the symbols V, L and D never be subtracted from L and C, C is subtracted from D and M but V, L, D and M can never be subtracted.

- (d) Also $CIV = 100 + 4 = 104$ or $DXL = 500 + 40 = 540$

EXAMPLE 1: Write the Roman numbers for the following Hindu less than Arabic numbers.

(a) $444 = 400 + 40 + 4 = CD + XL + IV = CDXLIV$

(b) $620 = 600 + 20 = 500 + 100 + 10 + 10 = D + C + XX$
 $= DCXX$

(c) $900 = 1000 - 100 = M - C = CM$

(d) $395 = 300 + 90 + 5 = 100 + 100 + 100 + 100 - 10 + 5$
 $= C + C + C + C - X + V$
 $= CCCXCV$

EXAMPLE 2: Write the Hindu-Arabic numbers for the following Roman numbers.

(a) $DC = 500 + 100 = 600$

- (b) $CD = 500 - 100 = 400$
- (c) $LX = 50 + 10 = 60$
- (d) $XL = 50 - 10 = 40$
- (e) $IX = 10 - 1 = 9$
- (f) $XI = 10 + 1 = 11$

Exercise-2.2

1. Convert into Roman numbers :

- | | |
|---------------|---------------|
| (a) 79 _____ | (b) 666 _____ |
| (c) 328 _____ | (d) 595 _____ |
| (e) 220 _____ | (f) 118 _____ |
| (g) 448 _____ | (h) 798 _____ |
| (i) 997 _____ | (j) 92 _____ |
| (k) 489 _____ | (l) 27 _____ |
| (m) 289 _____ | (n) 543 _____ |
| (o) 610 _____ | |

2. Convert into Hindu - Arabic numbers :

- | | |
|------------------|------------------|
| (a) CCXV _____ | (b) DXL _____ |
| (c) DCXX _____ | (d) XXI _____ |
| (e) DCLV _____ | (f) CDLXVI _____ |
| (g) XLIX _____ | (h) XIX _____ |
| (i) LXXII _____ | (j) CCC _____ |
| (k) DCC _____ | (l) CIII _____ |
| (m) XCVIII _____ | (n) CIV _____ |
| (o) CMLXIX _____ | |

3. Write > or <:

- | | |
|------------------------|----------------------|
| (a) DC _____ CD | (b) MC _____ CM |
| (c) XXVII _____ XLVIII | (d) CCX _____ CDXLIV |

(e) LXIX _____ CXXXV

(f) LXXIX _____ XC

(g) LX _____ XL

(h) DCCC _____ M

4. Addition :

(a) CCC + C = _____

(b) XL + X = _____

(c) XCV + L = _____

(d) CM + C = _____

(e) DCL + CCL = _____

(f) XC + IX = _____

5. Subtraction :

(a) CM - XC = _____

(b) CM - DCCC = _____

(c) C - L = _____

(d) L - XLIX = _____

(e) M - D = _____

(f) LIII - XL = _____

6. What comes just before:

(a) LXV = _____

(b) CCIX = _____

(c) CMXV = _____

(d) C = _____

(e) CDLX = _____

(f) M = _____

7. What comes just after :

(a) CMXC = _____

(b) LXIV = _____

(c) XCIV = _____

(d) CMXCIX = _____

(e) DCVII = _____

(f) D = _____

8. Arrange in increasing order :

(a) LX, XLIV, LII, XL = _____

(b) CXX, CL, XC, LXXX = _____

9. Arrange in descending order :

(a) XC, CM, IX, XCIX = _____

(b) CCC, DC, CD, DCC = _____