

MATHEMATICS

Class-VI

Chapter-1

Module-6/8

KNOWING OUR NUMBERS

Roman Numeral

The numerals 0, 1, 2, 3, 49 are used in writing numerals. These numerals are Indian in origin and the Arabs picked them up and spread to Europe. Therefore, these are called Hindu-Arabic numerals system. This is not only system available. One of the early system of numeration still in common used today was developed by Roman and is called the Roman Numeral systems.

There are seven distinct symbols in Roman Numeral Systems. These symbols along with corresponding Hindu-Arabic numerals are given below:

Roman Numeral	Hindu Arabic Number
I	1
V	5
X	10
L	50
C	100
D	500
M	1000

Using these symbols, we can write any numbers by following certain rules which are given below.

Rule – 1 if a symbol is repeated, its value is added as many times as it occurs

Example

$$\begin{aligned} \text{II} &= 1 + 1 = 2 \\ \text{III} &= 1 + 1 + 1 = 3 \\ \text{XX} &= 10 + 10 = 20 \\ \text{XXX} &= 10 + 10 + 10 = 30 \end{aligned}$$

It may be noted that a symbol is never repeated more than three times but the symbols V, L, and D are never repeated. Only I, X, C and M can be repeated.

Rule-2, if a symbol of smaller value is written to the right of a symbol of greater value, we add its value to the value of greater symbol.

Example

$$\begin{aligned} \text{VI} &= 5 + 1 = 6 \\ \text{XI} &= 10 + 1 = 11 \\ \text{LXV} &= 50 + 10 + 5 = 65 \end{aligned}$$

$$\text{CX} = 100 + 10 = 110$$

Rule-3, if a symbol of smaller value is written to the left of a symbol of greater value, its value is subtracted from the value of greater symbol.

Example

$$\text{IV} = 5 - 1 = 4$$

$$\text{IX} = 10 - 1 = 9$$

$$\text{XL} = 50 - 10 = 40$$

$$\text{XC} = 100 - 10 = 90$$

Rule-4, the symbol V, L, and D never written to the left of a symbol of greater value i.e V, L and D are never subtracted

Example

The symbol I can be subtracted from V and X only

The symbol X can be subtracted from L, and C only

The symbol C can be subtracted from D and M only

Rule-5, If a smaller numeral is placed between two longer numerals, it is always subtracted from the larger numeral immediately following it.

Example

$$\text{XIV} = 10 + (5 - 1) = 10 + 4 = 14$$

$$\text{XIX} = 10 + (10 - 1) = 10 + 9 = 19$$

$$\text{CXIV} = (100 + 10) + (5 - 1) = 110 + 4 = 114$$

By using above rules we get

1	=I	10=X	100=C	1000=M
2	=II	20=XX	200=CC	2000=MM
3	=III	30=XXX	300=CCC	3000=MMM
4	=IV	40=XL	400=CD	
5	=V	50=L	500=D	
6	=VI	60=LX	600=DC	
7	=VII	70=LXX	700=DCC	
8	=VIII	80=LXXX	800=DCCC	
9	=IX	90=XC	900=CM	
10	=X	100= C	1000=M	

Example-1, Write the following in Roman Numerals:

a. 56

$$\text{Ans: } 56 = 50 + 6 = \text{L} + \text{VI} = \text{LVI}$$

b. 74

Ans:-74 = 70 + 4 = LXX + IV = LXXIV

c. 99

Ans:- 99 = 90 + 9 = XC+IX = XCIX

d. 49

Ans:-49 = 40 +9 =XL +IX = XLIX

e. 86

Ans:-86= 80 + 6 = LXXX+VI=LXXXVI

Example-2, Write the following in Roman Numerals:

a. 246

Ans:246 = 200+40+6 =CC+XL+VI =CCXLVI

b. 589

Ans:-589=500+80+9=D+LXXX+IX=DLXXXIX

c. 398

Ans:-398=300+90+8=CCC+XC+VIII=CCCXCVIII

d. 949

Ans:-949=900+40+9=CM +XL+IX=CMXLIX

e. 876

Ans:-876=800+70+6=DCCC+LXX+VI=DCCCLXXVI

Example-3, Write the following in Roman Numerals:

a. 1254

Ans: 1254=1000+200+50+4=MCCLXIV

b. 2896

Ans:-2896=2000+800+90+6=MMDCCCIXVI

c. 3784

Ans:-3784=3000+700+80+4=MMMDCCLXXXIV

d. 1099

Ans:-1099=1000+90+9=MXCIX

e. 3456

Ans:-3456=3000+400+50+6=MMMCDLVI

- : THANK YOU : -