

# Roman Numerals

Grade 4

# Roman Numerals



## 7 Basic Symbols

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

|           |
|-----------|
| 1000      |
| x 1000    |
| 1,000,000 |

\* A bar (  $\overline{V}$  ) over any number increases its value by 1000 times

\* Roman numeral doesn't have symbol for zero.

## Basic Rules to form Roman Numerals

$xxx \checkmark = 30$   
 $xxxx$  Not possible

① Repetition of a Roman numeral means addition.

for example:

$$II = 1 + 1 = 2$$

$$III = 1 + 1 + 1 = 3$$

$$IIII \neq 4 \quad \times$$

$$x = 10$$

$$xx = 10 + 10 = 20$$

$$xxx = 30$$

$xxxx$  Not allowed

~~$VV = 10$~~

Restrictions

\* No numeral can be repeated more than 3 times.

\* V, L and D can never be repeated.

\* I, X, C and M can be repeated only upto 3 times.

② A smaller numeral written to the right of a larger numeral is always added to the larger numeral.

ex.

$$\underline{\underline{VI}} \rightarrow 5 + 1 = 6$$

$$XI \rightarrow 10 + 1 = 11$$

$$\underline{\underline{XIII}} \rightarrow 10 + 1 + 1 + 1 = 13$$

$$\left\{ \begin{array}{l} LX \rightarrow 50 + 10 = 60 \\ LXX \rightarrow 70 \\ LXXX \rightarrow 80 \\ CX \Rightarrow 100 + 10 = 110 \\ CXXX \Rightarrow 100 + 10 + 10 + 10 = 130 \end{array} \right.$$

$$CL \rightarrow 100 + 50 = 150$$

③ If a smaller numeral written left of the larger numeral; smaller is always subtracted from the larger.

XXXX

eg.  $IV \Rightarrow 5 - 1 = 4$   
 $IIIV \Rightarrow 13$  X not correct  
 $15 - 1 - 1 = 13$

XIII = 13 ✓

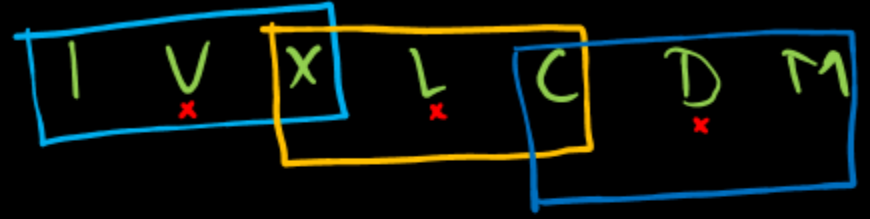
Restrictions:

- ① only one number can be subtracted from from the one bigger number.
- ② V, L and D can never be subtracted.
- ③ I can only be subtracted from V and X.  
 $IV = 5 - 1 = 4$

$\begin{matrix} \text{VV} & \text{LL} \\ & \text{DDD} \end{matrix}$   
 $\frac{VX}{X} = 10 - 5 = 5$   
~~V~~

(iv) X can only be subtracted from L and C.

(v) C can only be subtracted from D and M.



eg:  $CD = 500 - 100 = 400$

$$CM = 1000 - 100 = 900$$

$$XL = 50 - 10 = 40$$

$$XC = 100 - 10 = 90$$

$$XD = 490$$

Incorrect (Not following the rule)

Rule 4: When a smaller numeral is placed between two larger numerals, then it is subtracted from the larger numeral immediately following it.

for eg. XIV (V is following I)

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

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

\* When we write in Roman numeral, we ~~seper~~ separate the hundreds, tens and ones.

for ex.

① 89

$$\begin{aligned} 89 &= \boxed{80} + \boxed{9} \\ &= LXXX + IX \\ &= LXXXIX \end{aligned}$$

② 52 = 50 + 2  
L II  
LII

③ 49 = 40 + 9  
= XL IX  
= XLIX

④ 199 = 100 + 90 + 9  
= C XC IX  
= CXCIX

$$\begin{aligned} \underline{\underline{96}} &= 90 + 6 \\ &= XC VI \\ &= \underline{\underline{XCVI}} \end{aligned}$$

$$\textcircled{i} \quad \underline{\underline{XCVIII}} = 90 + 8 = 98$$

$$\textcircled{ii} \quad LXXI = 71$$

$$\textcircled{iii} \quad XLIV = 44$$

$$\textcircled{iv} \quad CIX = 109$$

$$\begin{aligned} \textcircled{v} \quad \underline{\underline{CLXIX}} &= 100 + 50 + 10 + 9 \\ &= 169 \end{aligned}$$

$$\textcircled{vi} \quad \underline{\underline{CXCIV}} = 100 + 90 + 4 = 194$$

$$\textcircled{vii} \quad CCXLVII = \underline{\underline{247}}$$

$$\begin{aligned} \textcircled{viii} \quad \underline{\underline{CDXXXVII}} &= 400 + 30 + 7 \\ &= 437 \end{aligned}$$

$$444 = \underline{CDXLIV}$$

$$\begin{array}{ccc} LXII & \boxed{>} & XLII \\ \text{~~~~~} & & \text{~~~~~} \\ 62 & & 42 \end{array}$$

$$\begin{array}{ccc} XXXIV & \boxed{<} & XXXVI \\ \text{~~~~~} & & \text{~~~~~} \end{array}$$

Calculate and write your answer in Roman numerals

$$\textcircled{i} \quad \underline{XIX} + \underline{XXIX} = \boxed{\cancel{XXXIX}} \quad \underline{\underline{XLVIII}} \checkmark$$

$$\textcircled{ii} \quad \underline{\underline{CC}} - \underline{CXXV} = \boxed{\cancel{XLV}} \quad \underline{\underline{LXXV}}$$

$$200 - 125 = \boxed{75}$$

$$85 = \underline{L} \underline{XXXV} \checkmark$$

$$\textcircled{iii} \quad \underline{IX} + \underline{XV} + \underline{XX} = \underline{\underline{XLIV}} \checkmark$$

9 + 15 + 20 = 44

$$\begin{array}{r} 19 \\ + 29 \\ \hline 48 \\ \hline 40 + 8 \\ \hline \underline{\underline{XLVIII}} \end{array}$$

$$\boxed{\underline{CXXV} = \underline{\underline{125}}}$$

① L, LX, LXX, LXXX, XC

XL > XXX

② CXX, CXXV, CXXX, CXXXV, CXL

5      5      5      5

③ L + X + V = LXV

2016 = 2000 + 10 + 6  
MCM + X + VI

~~MCMXVI~~

1-8-2016 → in Roman numerals

I - VIII - MCMXVI

which one is meaningless

a) XIII

(b) XIX

(c) XVV

(d) XL

$$\underline{\underline{XIII}} = 13 \times 1000 = \underline{\underline{13000}}$$

Meaningful

(a) VL

(b) IVC

(c) XC

(d) LIL

600  
DC

$$\bar{X} = 10,000$$

$$\underline{CD} = 400$$

XL

End of the chapter