

Roman Numerals I to C — Rules of Formation

Unit: Number System & Notation - Student Practice Worksheet

Overview: Kabir's grandfather's clock had IIII where every other clock has IV. Kabir told him the clock was wrong. His grandfather said the clock was ninety years old and had never once been wrong.

Practice Questions (30 Total)

Section A - Easy

Q1. Using the symbol table, what is the value of V?



Using the symbol table, what

- ☐ A. 5
- ☐ B. 10
- ☐ C. 50
- ☐ D. 1

Q2. Why is IIII not the standard way to write 4?

- ☐ A. Because I is never repeated at all
- ☐ B. Because 4 has no Roman numeral
- ☐ C. Because a symbol may repeat at most three times
- ☐ D. Because I may only follow V

Q3. Write 3 in Roman numerals. Work out how many I's you need.

- ☐ A. III
- ☐ B. IV
- ☐ C. IIV
- ☐ D. VI

Q4. Using the symbol table, what is the value of X?



Using the symbol table, what

- ☐ A. 5
- ☐ B. 50
- ☐ C. 100
- ☐ D. 10

Q5. What is the rule when a smaller symbol comes AFTER a larger one, like in VII?

- ☐ A. Subtract the smaller from the larger
- ☐ B. Add the smaller to the larger
- ☐ C. Ignore the smaller symbol
- ☐ D. Multiply them together

Q6. Write 7 in Roman numerals. Work out the largest symbol first, then what's left.

- ☐ A. IIV
- ☐ B. VII
- ☐ C. VIIII
- ☐ D. IIIV

Q7. Using the symbol table, what is the value of C?

Using the symbol table, what

- ☐ A. 50
- ☐ B. 10
- ☐ C. 500
- ☐ D. 100

Q8. How many symbols does the Roman system use for zero?

- ☐ A. One, the letter O
- ☐ B. None -- there is no zero
- ☐ C. One, the letter N
- ☐ D. Two

Q9. Write 12 in Roman numerals. Work out the largest symbol first, then what's left.

- ☐ A. IIX
- ☐ B. XX
- ☐ C. XII
- ☐ D. IIXX

Q10. Using the symbol table, write 4 in Roman numerals -- and explain which rule stops you writing IIII.

- ☐ A. IV
- ☐ B. IIII
- ☐ C. VI
- ☐ D. IIV

Section B - Medium

Q11. Using the table of subtractive pairs, what number is XL?

Using the table of subtracti

then compare

- ☐ A. 40
- ☐ B. 60
- ☐ C. 35
- ☐ D. 140

Q12. Which symbols may be repeated?

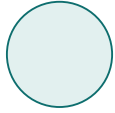
- ☐ A. V, L and D
- ☐ B. All of them
- ☐ C. I, X and C
- ☐ D. Only I

Q13. What number is XXVII? Add up each group.

- ☐ A. 22
- ☐ B. 17
- ☐ C. 37

☐ D. 27

Q14. Using the table of subtractive pairs, what number is XC?



Using the table of subtracti

☐ A. 110

☐ B. 100

☐ C. 90

☐ D. 60

Q15. Why can VV never be used for 10?

☐ A. Because V is never repeated

☐ B. Because V is worth 10 already

☐ C. Because only three V's are allowed

☐ D. Because V must come after X

Q16. What number is LXXXVIII? Add up each group.

☐ A. 78

☐ B. 98

☐ C. 83

☐ D. 88

Q17. Using the table of subtractive pairs, what number is IX?



Using the table of subtracti

☐ A. 11

☐ B. 9

☐ C. 6

☐ D. 19

Q18. What is the rule for reading a number written as several Roman groups side by side, like XXVII?

- ☐ A. Multiply every group together
- ☐ B. Add every group's value left to right
- ☐ C. Only the first group counts
- ☐ D. Subtract each group from the next

Q19. Write 45 in Roman numerals. Work out the biggest chunk first, then what's left.

- ☐ A. VL
- ☐ B. XLV
- ☐ C. XXXXV
- ☐ D. LVX

Q20. Using the table of subtractive pairs, what number is XLIV -- and which two subtractive pairs does it combine?

- ☐ A. 64
- ☐ B. 46
- ☐ C. 44
- ☐ D. 56

Section C - Challenge

Q21. Using the subtraction-rule table, is 'IL' (I subtracted from L) a valid Roman numeral?



Using the subtraction-rule t

- ☐ A. Yes, I can subtract from any letter
- ☐ B. No -- I only subtracts from V or X
- ☐ C. Yes, but only in the hundreds
- ☐ D. No -- I can never subtract from anything

Q22. Which letters may be subtracted, and from what?

- ☐ A. Any letter from any larger letter
- ☐ B. Only I, from V and X
- ☐ C. V from X; L from C
- ☐ D. I from V and X; X from L and C

Q23. Write 49 in Roman numerals. Break it into forty and nine.

- ☐ A. IL
- ☐ B. XXXXIX
- ☐ C. XLIX
- ☐ D. LIX

Q24. Using the subtraction-rule table, is 'IC' (I subtracted from C) valid?

Using the subtraction-rule t



- ☐ A. Yes
- ☐ B. No -- I only subtracts from V or X
- ☐ C. Only for numbers under 50
- ☐ D. Yes, if written after X

Q25. Kabir's grandfather's clock shows IIII for four. What is the best explanation?

- ☐ A. The clock is simply wrong
- ☐ B. IIII is the correct rule and IV is the mistake
- ☐ C. It is a clockmaking tradition, though IV follows the rule
- ☐ D. Old clocks used a different set of symbols

Q26. Write 64 in Roman numerals. Break it into fifty, ten, then four.

- ☐ A. LXIV
- ☐ B. XLIV
- ☐ C. LXIII
- ☐ D. VIXL

Q27. Using the subtraction-rule table, which letter may be subtracted from C?



Using the subtraction-rule t

- ☐ A. I
- ☐ B. V
- ☐ C. X

☐ **D.** L

Q28. Which of these is written correctly?

☐ **A.** XCIV

☐ **B.** IC

☐ **C.** VVI

☐ **D.** XXXXV

Q29. Compute XLII + IX and give the answer in Roman numerals.

☐ **A.** XLIX

☐ **B.** LII

☐ **C.** IL

☐ **D.** LI

Q30. Using the subtraction-rule table, write 99 in Roman numerals and explain why 'IC' is not allowed.

☐ **A.** IC

☐ **B.** XCIX

☐ **C.** LXXXXIX

☐ **D.** XCVIII

Answer Key

- Q1:** (A) (a) 5. Read the table's V column. Option (c) confuses it with L.
- Q2:** (C) (c) A symbol may repeat at most three times. Option (a) is too strong -- III is valid for three.
- Q3:** (A) (a) III. Three I's is allowed, since the limit is three in a row.
- Q4:** (D) (d) 10. Read the table's X column. Option (c) confuses it with C.
- Q5:** (B) (b) Add. A smaller symbol after a larger one is added -- VII is $5+1+1=7$.
- Q6:** (B) (b) VII. Five plus one plus one, largest symbol first.
- Q7:** (D) (d) 100. Read the table's C column. Option (c) is D, the next symbol up (not in this table).
- Q8:** (B) (b) None. The Roman system has no place value, so it never needed a symbol to hold an empty column.
- Q9:** (C) (c) XII. Ten plus one plus one, written largest first.
- Q10:** (A) (a) IV. The table shows $I=1$ and $V=5$; one I placed BEFORE V means one less than five, and the repeat-limit rule (at most three of the same symbol) rules out IIII.
- Q11:** (A) (a) 40. Read the table's XL row directly.
- Q12:** (C) (c) I, X and C. Option (a) is exactly backwards -- V, L, D are the ones that never repeat.
- Q13:** (D) (d) 27. Ten plus ten plus five plus one plus one.
- Q14:** (C) (c) 90. Read the table's XC row directly.
- Q15:** (A) (a) V is never repeated -- the next symbol up already exists for that value, namely X.
- Q16:** (D) (d) 88. Fifty plus thirty plus five plus three.
- Q17:** (B) (b) 9. Read the table's IX row directly.
- Q18:** (B) (b) Add every group's value left to right: $XX + V + II = 20+5+2 = 27$.
- Q19:** (B) (b) XLV. Forty then five. Option (a) tries to subtract V, which is never a subtracting symbol.
- Q20:** (C) (c) 44. The table shows $XL=40$ and $IV=4$; XLIV combines both pairs: $40+4=44$.
- Q21:** (B) (b) No. The table shows I only subtracts from V or X, never from L.
- Q22:** (D) (d) I from V and X; X from L and C. V and L are never used as subtracting symbols at all.
- Q23:** (C) (c) XLIX. XL then IX. Option (a) is the mistake -- I may not be subtracted from L.
- Q24:** (B) (b) No. I is never paired with C in the table -- only V and X.
- Q25:** (C) (c) A clockmaking tradition. The maths rule is unchanged -- both Kabir and his grandfather were right about different things.
- Q26:** (A) (a) LXIV. Fifty, ten, then four. Option (b) is forty-four instead.

Q27: (C) (c) X. The table's second row pairs X with L and C.

Q28: (A) (a) XCIV = 94. Option (b) subtracts I from C, (c) repeats V, (d) uses four X's.

Q29: (D) (d) LI. XLII is 42 and IX is 9, so the total is 51 -- fifty and one.

Q30: (B) (b) XCIX -- ninety and nine. The table shows I may only subtract from V or X, never from C, so IC is invalid.

You've got this! Keep learning and shining! - Ruchi Math Coaching