READING AND WRITING ROMAN NUMERALS

In everyday life Roman Numerals are expressed by uppercase letters. In medicine when using the apothecary system, lowercase letters are used instead of upper case letters when Roman Numerals are used. However, the procedures are always the same.

1 = I 5 = V 10 = X L = 50 C = 100 D = 500 M = 1000

READING ROMAN NUMERALS

Rule #1: When reading Roman Numerals, the value of the number is added from left to right if the left numeral is greater than the right numeral.

Examples:

1. II = (1+1) = 2
2. XX = (10+10) = 20
3. CII = (100+1+1) = 102
4. DCLX = (500+100+50+10) = 660

Rule #2: If the left numeral is smaller than the right numeral, subtract the value of the left value from the right numeral.

Examples:

1. IX = 10 – 1 = 9
2. XXIV = (10 + 10 + (5 - 1)) = 24
3. CCXCIX = (100 + 100 + (100 - 10)+(10 - 1)) = 299
4. MCMCDVII = (1000 + (1000 – 100) + (500 – 100) + 7) = 1947

WRITING ROMAN NUMERALS

- Numbers cannot be written by repeating a single numeral more than three times. You need to use Roman numeral strategies to write these numbers.

  Examples: IV = 4 IX = 9 XC = 90 CD = 400 LX = 60

- When writing a numeral express each part of the number as if it were written in expanded notation.

  Examples:

  65 = 60 + 5 so we write LX (60) + V (5) or LXV

  49 = 40 + 9 so we write XL (40) + IX (9) or XLIX

  345 = 300 + 40 + 5 so we write CCC (300) + XL (40) + V (5) or CCCXLV

  827 = 800 + 20 + 7 so we write DCCC (800) + XX (20) + VII (7) or DCCCXXVII

- To represent larger numbers, put a bar over the numeral. The bar represents multiplying the number by 1000.

  Examples:
  $\overline{VIII}$ = 8 x 1000 = 8000
  $\overline{XV}$ = 15 x 1000 = 15000
  $\overline{CD}$ = 400 x 1000 =400000

PRACTICE PROBLEMS

Problem 1. Write the following numbers using Roman Numerals:

a. 50
b. 123
c. 438
d. 679
e. 1998
f. 4567

Problem 2. Write the following numbers using Hindu-Arabic numerals:

g. DCXLVII
h. MXLIX
i. MMCXLIV
j. XLIX
k. $\overline{DCCVI}$
l. $\overline{XLIX}$
m. $\overline{CCCLXII}$

ANSWERS

Problem 1.

a. L
b. CXXIII
c. CDXXXVIII
d. DCLXXIX
e. MCMXCVIII
f. $\overline{IV}DLXVII$

Problem 2.

g. 647
h. 1,049
i. 2,144
j. 49
k. 706,000
l. 49,000
m. 362,000