

# Roman Numerals II

October 24, 2018

## **Warm up**

Two bakers make 4 cakes in a day. How many cakes will three bakers make in two days?

## Bigger Roman Numerals

Insert the missing Roman numerals:

X, XI, , , , XV, , , , IX, XX

Correct mistakes in the Roman numerals below.

• XIII =

• XVIII =

• XIIV =

• XVV =

• VXX =

Solve the following problems:

•  $XV + II =$

•  $XX - I =$

•  $XVI - II =$

•  $IX + VI =$

•  $XVII - V =$

•  $XVII - XII =$

## Move a stick

The Roman numerals below are made of craft sticks. Use the craft sticks to make the number sentences on the desk in front of you. Correct mistakes by moving one stick only. Then write down your solution. Most problems have several solutions. Find as many as you can!

1.  $XI + IV = XIII$

2.  $IV + VI = XII$

3.  $XIX - IX = VIII$

4.  $IX + IV = XV$

5.  $XX - IV = XIV$

6.  $XIX - VI = XV$

## More Roman Numerals

Recall that  $X=10$  and  $XX=20$ .

What does the Roman numeral  $XXX$  stand for?

$$XXX = \boxed{\phantom{000}}$$

Here are some greater Roman numerals:

$L = 50$	$C = 100$	$D = 500$	$M = 1000$
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We can make any number using basic Roman numerals. For example,

- $DL = 550$
- $MX = 1010$
- $XLIII = 43$
- $LD = 450$
- $LXIII = 63$

## Making Roman Numerals out of the Basic Ones

If a smaller number stands to the *right* of a greater number, we use *addition*. For example:

1.  $LX = L + X = 50 + 10 = 60.$

2.  $CLX = C + L + X = 100 + 50 + 10 = 160.$

3.  $DXX = D + XX = 500 + 20 = 520.$

When a smaller number stands to the *left* of a larger number, use *subtraction*. For example:

4.  $XL = L - X = 50 - 10 = 40.$

5.  $XC = C - X = 100 - 10 = 90.$

6.  $CMII = M - C + II = 1000 - 100 + 2 = 902.$

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

What do the Roman numerals below mean?

CL =

DL =

LD =

DCL =

CCXIV =

DVIII =

MMCC =

MMXVII =



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

XIX =

CXC =

CXCI =

DXD =

DCD =

DCDXI =

MCM =

## Converting to Roman Numerals

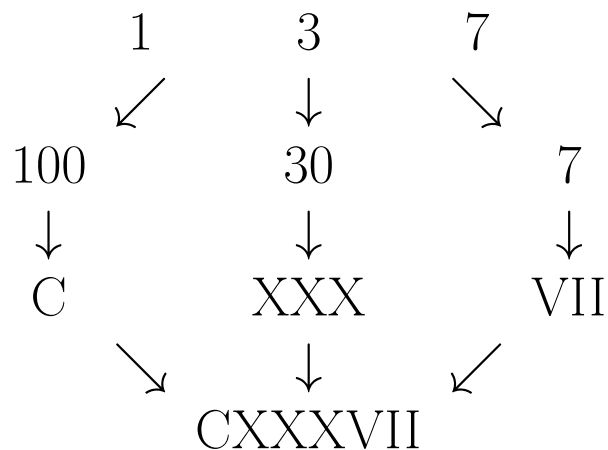
Let us convert the number 137 to Roman Numerals.  
Write 137 as a sum of hundreds, tens and units:

$$137 = 100 + 30 + 7.$$

Notice that

- the digit 1 represents 100;
- the digit 3 represents 30;
- the digit 7 represents 7.

Use the Roman Numerals for 100, 30 and 7:



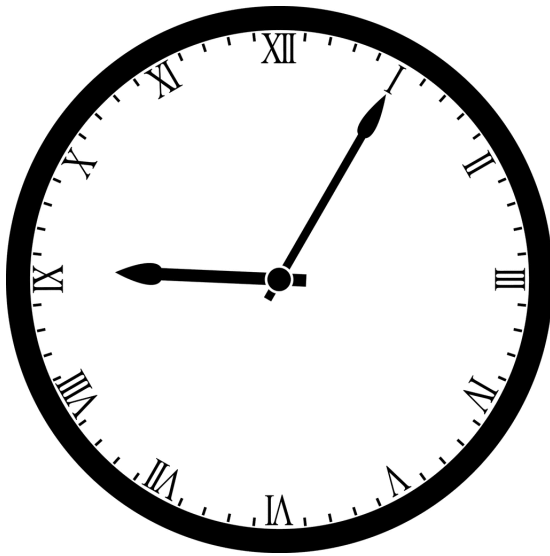
We get  $137 = \text{CXXXVII}$ .

Convert the number 569 to Roman numerals.

## Clocks with Roman Numerals

Roman numerals are used on the dials of some clocks and watches.

Take a look at the clock below.



What time does the clock show?

## Homework

1. Complete all the problems from the class.
2. What does the Roman numeral MDCLXVI represent?

3. Write your birth date using Roman numerals.

Example: 6/11/2005 is VI/XI/MMV.

Here are the numbers of the months:

month	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
number	1	2	3	4	5	6	7	8	9	10	11	12

Your birth date:  $\underbrace{\quad\quad\quad}$  /  $\underbrace{\quad\quad\quad}$  /  $\underbrace{\quad\quad\quad}$   
month      date      year

In Roman numerals:

$\underbrace{\quad\quad\quad}$  /  $\underbrace{\quad\quad\quad}$  /  $\underbrace{\quad\quad\quad}$   
month      date      year

4. Write down today's date in Roman numerals:

$\underbrace{\quad\quad\quad}$  /  $\underbrace{\quad\quad\quad}$  /  $\underbrace{\quad\quad\quad}$   
month      date      year

5. Modern XXIII Summer Olympic Games took place in Los Angeles in the year MCMLXXXIV.

(a) What was the number of the Olympic Games?

XXIII=

(b) What was the year?

MCMLXXXIV=

6. Select an interesting date in history or a date which is important for your family and write it down in Roman numerals. What does this date represent?