





Steps to Success

Lockdown

Date	04.03.21
Subject/s	Maths
Learning Objective 	To use Roman numerals

SA 	TA 
---	---

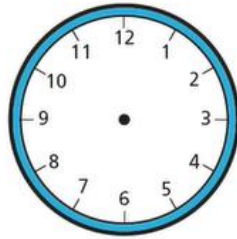
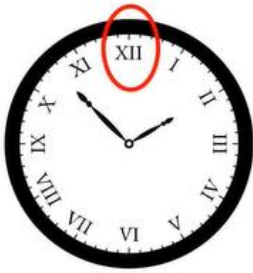
Success Criteria 	I V X L C D M 1 5 10 50 100 500 1000		
	I know Roman numerals represent Arabic numbers		
	I know a letter after a larger one means you add it E.g XI is 10 + 1 = 11		
	I know a letter before a larger one means you take it away E.g IX is 10 - 1 = 9		
Support	Independent Adult Support () Group Work		

Pre-task:

- | | | | |
|--------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 1. VIII = <input type="text"/> | 2. IV = <input type="text"/> | 3. XII = <input type="text"/> | 4. XV = <input type="text"/> |
| 9. 13 = <input type="text"/> | 10. 22 = <input type="text"/> | 11. 30 = <input type="text"/> | 12. 49 = <input type="text"/> |

Teacher Led

Watch the video to support your understanding of Roman numerals <https://vimeo.com/457420876>



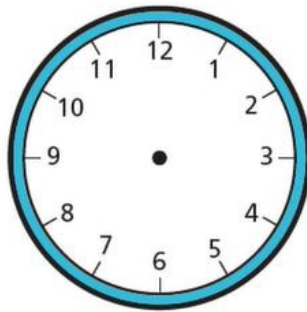
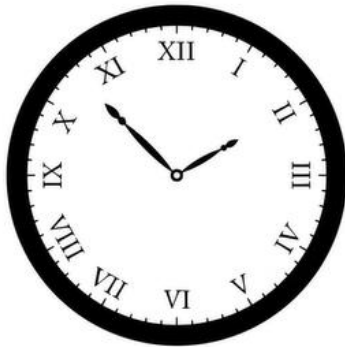
I means 1

V means 5

X means 10

XII means 12

$$10 + 1 + 1 = 12$$



I means 1

V means 5

X means 10

IV means 4

$$5 - 1 = 4$$

Numbers 1-20

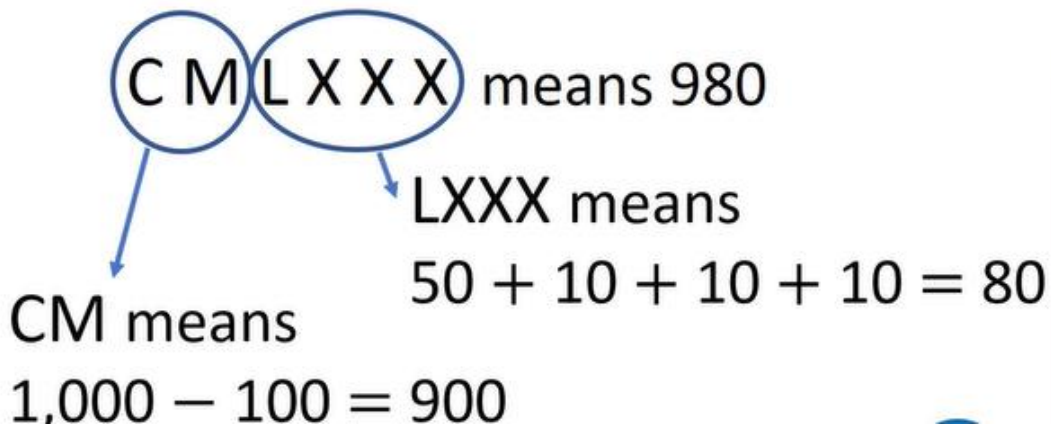
I	II	III	IV	V	VI	VII	VIII	IX	X
---	----	-----	----	---	----	-----	------	----	---

XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX
----	-----	------	-----	----	-----	------	-------	-----	----

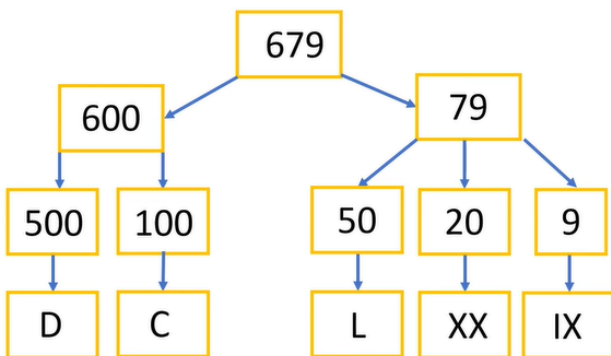
Roman Numerals Rules

- 1) Subtract only 1, or a multiple of 10
- 2) Subtract only a single letter

3) Don't subtract a letter from a letter more than 10 times greater



679 in Roman numerals is DC LXX IX



Fluency

Translate these Roman numerals. Don't forget to show your working out!

① MD _____ ④ CXVI _____

② MCD _____ ⑤ DCLX _____

③ XXXIV _____ ⑥ CXIII _____

Write these numbers in Roman numerals.

① 35 _____ ④ 283 _____

② 100 _____ ⑤ 570 _____

③ 99 _____ ⑥ 27 _____

Arrange these numbers in size order (smallest to largest).

XXXV, XL, XXX, LX, LV, L, XLV, LXV

_____, _____, _____, _____, _____, _____, _____, _____,

Arrange these numbers in size order (smallest to largest).

CL, CCC, CCL, C, CD, CC, L, CCCL

_____, _____, _____, _____, _____, _____, _____, _____,

Count in hundreds from one hundred.

C, CC, _____, _____, D, _____, _____, _____, _____,

Count in five hundreds from five hundred.

D, _____, _____, _____, MMD, _____, _____,

Complete these calculations.

① $CD + DC =$ _____ ④ $XL + LX =$ _____

② $VI + IV =$ _____ ⑤ $CM + MC =$ _____

③ $XI + IX =$ _____ ⑥ $CX + XC =$ _____

Answers

Translate these Roman numerals. Don't forget to show your working out!

① MD **$1000 + 500 = 1500$**

④ CXVI **$100 + 10 + 6 = 116$**

② MCD **$1000 + 400 = 1400$**

⑤ DCLX **$500 + 100 + 50 + 10 = 660$**

③ XXXIV **$(3 \times 10) + 4 = 34$**

⑥ CXIII **$100 + 10 + (3 \times 1) = 113$**

Write these numbers in Roman numerals.

① 35 **XXXV**

④ 283 **CCLXXXIII**

② 100 **C**

⑤ 570 **DLXX**

③ 99 **XCIX**

⑥ 27 **XXVII**

Arrange these numbers in size order (smallest to largest).

30 **35** **40** **45** **50** **55** **60** **65**
XXX, XXXV, XL, XLV, L, LV, LX, LXV

Arrange these numbers in size order (smallest to largest).

50 **100** **150** **200** **250** **300** **350** **400**
L, C, CL, CC, CCL, CCC, CCCL, CD

Count in hundreds from one hundred.

C, CC, **CCC**, **CD**, D, **DC**, **DCC**, **DCCC**, **CM**, **M**

Count in five hundreds from five hundred.

D, **M**, **MD**, **MM**, MMD, **MMM**, **MMMD**

Complete these calculations.

① CD + DC = **M**

④ XL + LX = **C**

② VI + IV = **X**

⑤ CM + MC = **MM**

③ XI + IX = **XX**

⑥ CX + XC = **CC**

Problem Solving and Reasoning

Answers

Use it!



Solve

$$\text{CCCL} + \text{CL} =$$

How many calculations, using Roman Numerals, can you write to get the same total?

Possible answers:

$$\begin{aligned} &\text{CD} + \text{C} \\ &\text{M} \div \text{II} \\ &\text{C} + \text{CC} + \text{CC} \\ &\text{C} \times \text{V} \end{aligned}$$

Use it!



Here is part of a Roman Numerals hundred square.

Complete the missing values.

Explain it!



XLIV	XLV		XLVII
		LVI	LVII
LXIV		LXVI	LXVII

What patterns do you notice?

Missing Roman Numerals from the top row and left to right:

- XLVI
- LIV
- LV
- LXV

Use it!



Solve the following calculation:

$$\text{XIV} + \text{XXXVI} = \underline{\quad}$$

How many other calculations, using Roman Numerals, can you write to get the same total?

Answer: L

Other possible calculations include:

$$\begin{aligned} &\text{C} \div \text{II} = \text{L} \\ &\text{L} \div \text{I} = \text{L} \\ &\text{X} \times \text{V} = \text{L} \\ &\text{XXV} \times \text{II} = \text{L} \\ &\text{LXV} - \text{XV} = \text{L} \\ &\text{C} - \text{L} = \text{L} \\ &\text{XX} + \text{XX} + \text{X} = \text{L} \end{aligned}$$

Mo says:

In the 10 times table, all the numbers have a zero. Therefore, in Roman Numerals all multiples of 10 have an X



Research and give examples to prove whether or not Mo is correct.

Mo is incorrect. A lot of multiples of 10 have an X in them, but the X can mean different things depending on its position. For example, X in 10 just means one ten, but X in XL means 10 less than 50. X in 60 (LX) means 10 more than 50. The number 50 has no X and neither does 100.

Further Challenge

Can you work out how to write '1984' in Roman numerals?

'1984' written in Roman numerals has more numerals than when it is written in Arabic numerals. However, this will not always be the case.

Can you find some examples when the number of Roman numerals is fewer than the number of Arabic numerals for the same number?