Reasoning and Problem Solving
Step 1: Roman Numerals

National Curriculum Objectives:

Mathematics Year 4: (4N3b) Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value
Mathematics Year 4: (4N6) Solve number and practical problems that involve all of the above and with increasingly large positive numbers

Differentiation:

Questions 1, 4 and 7 (Problem Solving)
Developing Complete two missing sections in a part whole model containing Roman numerals up to 20.
Expected Complete two missing sections in a part whole model containing Roman numerals up to 100.
Greater Depth Complete more than two missing sections in a part whole model containing Roman numerals up to 100. Some inverse operation will be required.

Questions 2, 5 and 8 (Problem Solving)
Developing Write three addition/subtractions calculations involving four Roman numerals up to 20.
Expected Write three addition/subtractions calculations involving four Roman numerals up to 100.
Greater Depth Write three two-step addition/subtractions calculations involving four Roman numerals up to 100.

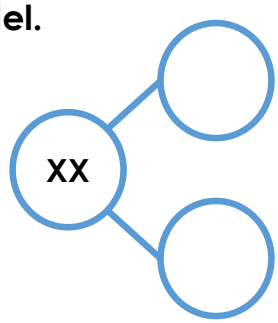
Questions 3, 6 and 9 (Reasoning)
Developing Prove if a statement is correct involving addition and subtraction for Roman numerals up to 20.
Expected Prove if a statement is correct involving addition and subtraction for Roman numerals up to 100.
Greater Depth Prove if a statement is correct involving 2-step addition and subtraction for Roman numerals up to 100.

More Year 3 and Year 4 Place Value resources.

Did you like this resource? Don't forget to review it on our website.

Roman Numerals

1a. Using these numbers, find as many ways as you can to complete this part whole model.

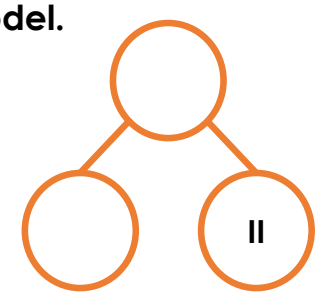


VI	XII	XIV	VIII

D

4 PS

1b. Using these numbers, find as many ways as you can to complete this part whole model.



XVI	X	XII	XIV

D

4 PS

2a. Use these Roman numerals to write 3 calculations using addition or subtraction totalling no more than 20.

IV	XVI
XIX	VI

D

4 PS

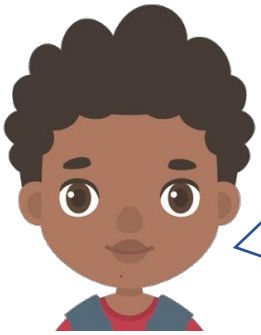
2b. Use these Roman numerals to write 3 calculations using addition or subtraction totalling no more than 20.

IX	V
XI	XV

D

4 PS

3a. Reuben says:



Adding 2 Roman numerals which include V will always total 10 or more.

Is his statement correct? Prove it.

D

4 R

3b. Harley says:

Subtracting a Roman numeral which includes a V from a Roman numeral with an X will always equal 5 or less.

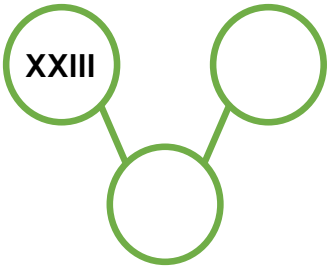
Is his statement correct? Prove it.

D

4 R

Roman Numerals

4a. Using these numbers, find as many ways as you can to complete this part whole model.



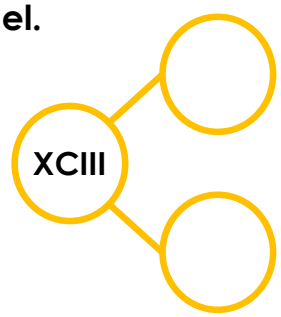
LXXXVII	XVIII	LXIV	XLI

E

4 PS

Roman Numerals

4b. Using these numbers, find as many ways as you can to complete this part whole model.



III	LXIX	XC	XXIV

E

4 PS

5a. Use these Roman numerals to write 3 calculations using addition or subtraction totalling no more than 100.

XCII	XXXI
LXIX	XLIV

E

4 PS

5b. Use these Roman numerals to write 3 calculations using addition or subtraction totalling no more than 100.

XLIII	XXXIV
XCVII	XXIX

E

4 PS

6a. Luca says:

> Adding 2 Roman numerals which include L will always total 100 or more.

Is his statement correct? Prove it.

E

4 R

6b. Thalia says:

> Adding 3 Roman numerals which include X will always total more than 30.

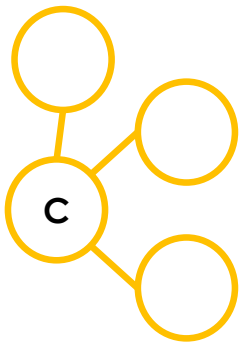
Is her statement correct? Prove it.

E

4 R

Roman Numerals

7a. Using these numbers, find as many ways as you can to complete this part whole model.



XLII | XXXVIII | XXII | XX

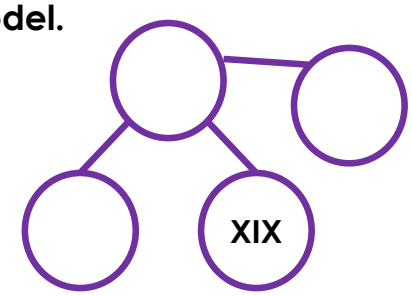
XXIX | LXII | XVI | LI

GD

4 PS

Roman Numerals

7b. Using these numbers, find as many ways as you can to complete this part whole model.



LXXVII | XLI | XXXIV | XCIV

XXIV | LXXXVII | LXXXIV | L

GD

4 PS

8a. Use these Roman numerals to write 3 calculations using 2-step addition and subtraction totalling no more than 100.

XCI | XLIX | XXIV

XXXIX | XIV | LXXIV

GD

4 PS

8b. Use these Roman numerals to write 3 calculations using 2-step addition and subtraction totalling no more than 100.

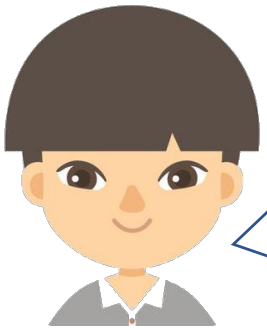
LXXXIX | LXIV | XIII

XXI | XXIX | XVII

GD

4 PS

9a. Eric says:



If I subtract a Roman numeral with an L in it from the Roman numeral C, my answer will always be 50 or less.

Is his statement correct? Prove it.

GD

4 R

9b. Jay says:

If I add together a Roman numeral with a V, X and L, my answer will always be greater than 65.

Is his statement correct? Prove it.

GD

4 R

Reasoning and Problem Solving
Roman Numerals

Developing

1a. VI and XIV
XII and VIII
2a. Various answers, for example:
IV + XVI = XX; IV + VI = X
3a. No because if you had: IV (4) + V(5) = IX (9)

Expected

4a. XVIII and XLI
XLI and LXIV
LXIV and LXXXVII
5a. Various answers, for example:
XCII – XLIV = XLVIII; LXIX + XXXI = C
6a. No because If you had: XL(40) + XL = LXXX (80)

Greater Depth

7a. Various answers, for example:
XLII and XXXVIII and XX
XXIX and LI and XX
LXII and XVI and XXII
8a. Various answers, for example:
XCI – XLIX + XXIV = LXVI; LXXIV – XXXIX – XXIV = XI
9a. No because If you had: C(100) – XL (40) = LX(60)

Reasoning and Problem Solving
Roman Numerals

Developing

1b. XII and XIV
XIV and XVI
X and XII
2b. Various answers, for example:
X + V = XV; IX + V = XIV
3b. No because If you had: XII(12) – V(5) = 7 or X(10) – IV(4) = IX(9)

Expected

4b. III and XC
LXIX and XXIV
5b. Various answers, for example:
XCVII – XXIX = LXVIII; XLIII + XXXIV = LXXVII
6b. No because If you had: IX (9) + IX + IX = XXVII (27)

Greater Depth

7b. Various answers, for example:
XLI and XXXIV and XCIV
XLI and XXIV and LXXXIV
XXXIV and XXIV and LXXVII
XXXIV and XXXIV and LXXXVII
8b. Various answers, for example:
LXIV + XIII + XIX = XCVI; LXXXIX – XXI – XXIX = XXXIX
9b. No because If you had: IV(4) + IX (9) + XL (40) = LIII (53)