## Reasoning and Problem Solving - Roman Numerals 2

## National Curriculum Objective:

Mathematics Year 4: 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: Solve number and practical problems that involve all of the above and with increasingly large positive numbers

## Differentiation:

Developing Investigating numbers to 20.
Secure Investigating numbers to 50 .
Mastery Investigating numbers to 100

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1. Bobby says,
'In Roman numerals, the number one is represented as I.
Therefore, all multiples of one must end in I.'
Is Bobby correct? Research and give examples to prove whether or not Bobby is correct.

2. James says,
'In Roman numerals, the number three is represented as III. Therefore, all multiples of three must end in III.'

Is James correct? Research and give examples to prove whether or not James is correct.

2. Sally says,
'In Roman numerals, the number two is represented as II. Therefore, all multiples of two must end in II.'

Is Sally correct? Research and give examples to prove whether or not Sally is correct.
$\square$
4. Harry says,
'In Roman numerals, the number five is represented by as V . Therefore, all multiples of five must end in V.'

Is Harry correct? Research and give examples to prove whether or not Harry is correct.


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5. Bobby says,
'In Roman numerals, the number ten is represented as X .
Therefore, all multiples of ten must end in X.'
Is Bobby correct? Research and give examples to prove whether or not Bobby is correct.

6. James says,
'In Roman numerals, the number nine is represented as IX. So, if a multiple of ten is added to nine, the answer will always end in IX.'
Is James correct? Research and give examples to prove whether or not James is correct.

7. Sally says,
'In Roman numerals, the number twenty is represented as XX. Therefore, all multiples of twenty must end in XX.'

Is Sally correct? Research and give examples to prove whether or not Sally is correct.

8. Harry says,
'In Roman numerals, the number fifteen is represented as XV . So, if a multiple of ten is added to fifteen, the answer will always end in XV.'
Is Harry correct? Research and give examples to prove whether or not Harry is correct.

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## 9. Bobby says,

'In Roman numerals, the number fifty is represented as $L$. Therefore, all numbers from 50 to 100 must start with L.'

Is Bobby correct? Research and give examples to prove whether or not Bobby is correct.

11. James says,
'In Roman numerals, the number fifty-five is represented as LV. So, if a multiple of ten is added to fifty five, the answer will always contain $L$ and V.'
Is James correct? Research and give examples to prove whether or not James is correct.

10. Sally says,
'In Roman numerals, the number thirty-six is represented as XXXVI. So, if a multiple of ten is added to thirty-six, the answer will always end in VI.'
Is Sally correct? Research and give examples to prove whether or not Sally is correct.

12. Harry says,
'In Roman numerals, every time you add a multiple of ten to fifty, all you need to do is add another X to the end.'

Is Harry correct? Research and give examples to prove whether or not Harry is correct.

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## Example answers.

## Developing

1. Bobby is incorrect as numbers $4,5,9$ and 10 are represented as IV, V, IX and $X$. These Roman numerals do not end in I.
2. Sally is incorrect as 4,6 and 10 are multiples of 2 and they are represented as IV, VI and X. These Roman numerals do not end in II.
3. James is incorrect as $6,9,12$, and 15 are multiples of 3 and they are represented as VI, IX, XII and XV. These Roman numerals do not end in III.
4. Harry is incorrect as 10 and 20 are multiples of 5 and they are represented as $X$ and $X X$. These Roman numerals do not end in $V$.

## Secure

5. Bobby is incorrect as 40 and 50 are multiples of 10 and they are represented as $X L$ and $L$, although 20 and 30 do end in $X(X X$ and $X X X)$.
6. Sally is incorrect as 40 and 60 are both multiples of 20 and they are represented as XL and LX . These Roman numerals do not end in $X X$.
7. James is correct as $19,29,39,49$ and 59 etc are represented as XIX, XXIX, XXXIX, XLIX, LIX and so on. All of these Roman numerals end in IX.
8. Harry is incorrect because although 25 and 35 are represented as $X X V$ and $X X X V, 45$ and 55 are represented as XLV and LV, which do not end in XV.

## Mastery

१. This may be true of numbers from 50 to 89 but Bobby is incorrect as numbers from 90 to 99 begin with $X$ and 100 is represented as $C$.
10.Sally is correct as 46,56, 66, 76, 86, 96 and 106 are represented as XLVI, LVI, LXVI, LXXVI, LXXXVI, XCVI, CVI and so on. All of these numbers end in VI.
11. This may be true for 65,75 and 85 as they are represented as $L X V$, $L X X V$ and $L X X X V$, but James is incorrect as 95 is represented as $X C V$, which does not contain the letter L.
12. Although this may be true for LX (60), LXX (70), LXXX (80), Harry is incorrect as 90 and 100 are represented a XC and C.

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