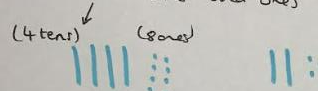# Calculation Methods Year 2 – Maths
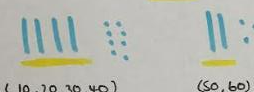
Addition - In Year 2, we learn to add two digit numbers within 100. We work on methods which allow us to cross the 10. We use a variety of methods including: dienes, partitioning and number lines. These methods help prepare the children for the more formal column method in Year 3.
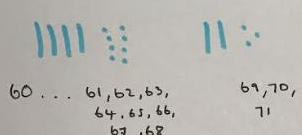

Addition
$1 = \frac{10}{(ten)}$ $. = 1 (one)$

Method 1 - Dienes
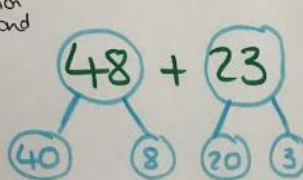
$$48 + 23$$

1: Draw the tens and ones
(4 tens)   (8 ones)

2: Count the tens
(10,20,30,40)   (50,60)

3. Count on from this number (so in this case from 60) in your ones

60 ... 61,62,63, 64,65,66, 67,68   69,70, 71
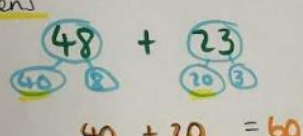
4. Write your answer
$$48 + 23 = 71$$
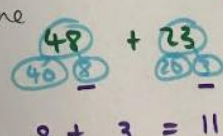
Addition

Method 2 - Partition

$$48 + 23$$

1: Partition tens and ones
(48) + (23)
(40) (8) (20) (3)

2. Add the tens
(48) + (23)
(40)(8) (20)(3)
$$40 + 20 = 60$$

3. Add the ones
(48) + (23)
(40)(8) (20)(3)
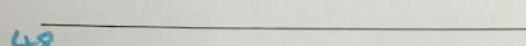$$8 + 3 = 11$$

4. Add the two answers and write your answer
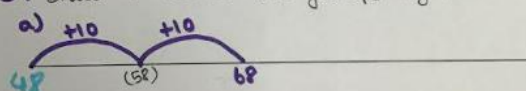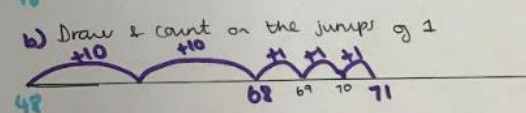a) $60 + 11 = 71$ b) $48 + 23 = 71$

Addition

Method 3 - Number line

$$48 + 23$$

1: Draw the number line, putting the greatest number at this end

48

2. Partition the 2nd number
48 + (23)
(20) (3)

3. Draw & count the jumps of 10
a) +10 +10
48 (58) 68

b) Draw & count on the jumps of 1
+10 +10
48 68 69 70 71

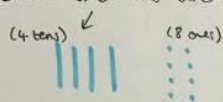4. Write your answer
$$48 + 23 = 71$$

Subtraction - In Year 2, we learn to take away one and two digit numbers including crossing the 10. We use dienes, partitioning and counting back on number lines. Just like with addition these methods help prepare the children for the more formal column method in Year 3.

Subtraction

$| = \frac{10}{(ten)} \quad \bullet = \frac{1}{(one)}$

Method 1 - Dienes (Not crossing the 10's)

48 - 23

1: Draw the tens and ones of ONLY the 1st number!

(4 tens) ↙   (8 ones)

|||| ⋮⋮

2: Count the tens of the 2nd number and cross out

48 - <u>2</u>3

|||<s>|</s>   ⋮⋮

3: Count the ones of the 2nd number and cross out

48 - <u>23</u>

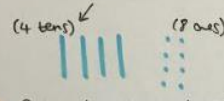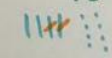|||<s>|</s>   ⋮<s>⋮</s>

4: Count tens and ones that are left!

48 - 23 = 25

Subtraction

$| = \frac{10}{(ten)} \quad \bullet = \frac{1}{(one)}$

Method 1 - Dienes (Crossing the tens)
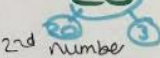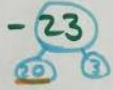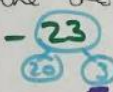
48 - 29

1: Draw the tens and ones of ONLY the 1st number!

(4 tens) ↙   (8 ones)

|||| ⋮⋮

2: Count the tens of the 2nd number and cross out

48 - <u>2</u>9

|||<s>|</s>   ⋮⋮

3: Count the ones of the 2nd number — you cannot cross the ones out as there are not enough so we have to <u>exchange</u>! Ten ones = One ten.

48 - 2<u>9</u>

|||<s>|</s>   ⋮⋮ |
⋮

4: We now have enough ones to cross out! Cross them out!

48 - 29

|||<s>|</s>   ⋮⋮

5: Count the tens and ones that are left and write your answer!

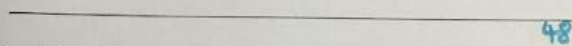### 48 - 29 = <u>19</u>

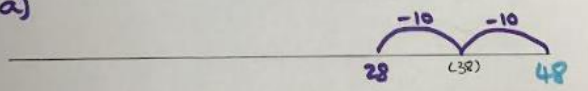# Subtraction

Method 2 - Partition

48 - ㉓
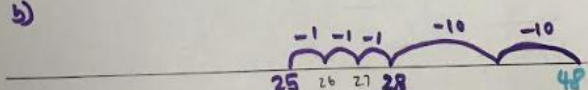
1: Partition the 2nd number

2: Take Away the tens

<u>4</u>8 - ㉓
⑳ ③

40 - 20 = 20

3. Take Away the ones

4<u>8</u> - ㉓
⑳ ③

8 - 3 = 5

> If crossing the tens e.g.
> 48 - 29
> at this step count back
> so 2, 48 - 20 = 28
> 3. 28 - 9
> 28, 27, 26, 25, 24, 23, 22,
> 21, 20, 19

4. Combine the answers.

20 + 5 = <u>25</u>

Write the answer

48 - 23 = 25

Subtraction

Method 3 - Numberline

48 - 23

1: Draw the numberline, putting the greatest number at this end ↓

_____ 48

2: Partition the 2nd number

48 - ㉓
⑳ ③

3: Draw & count back the jumps of 10

a)
                    -10   -10
_____
           28   (38)   48

b)
         -1 -1 -1   -10   -10
_____
         25 26 27 28   48

4: Write your answer

48 - 23 = 25

Multiplication - We look at multiplication as being equal groups of given amounts. We encourage the drawing of multiplication questions as below. We do start looking at formal times tables in Year 2, with the 2, 5 and 10 times tables. Some children will also having a growing knowledge of the 3 times table.
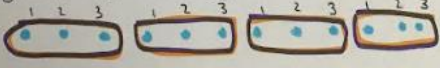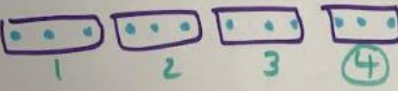
Division - We look at the two main ways of looking at division: grouping and sharing. Grouping is when you put the items into groups of a certain size, whilst sharing is when you share the given number between a set number of groups.

Division

Method 1 – Grouping

$$12 \div 3$$

12 grouped/shared equally into 3's

1: Draw the greatest number

• • • • • • • • • • • •

2: Check the number you are grouping it by (2nd number!)

$$12 \div 3$$

3: Count your dots for that amount and group by circling

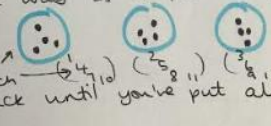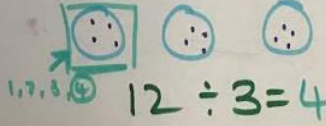4: Count how many groups and write your answer

1   2   3   4

$$12 \div 3 = 4$$

Division

Method 2 – Sharing

$$12 \div 3$$

12 shared equally into 3

1: Check the 2nd number – this will be the groups you draw.
Draw them

2: Check the greatest number – this will be what we are sharing equally.

$$12 \div 3$$

3: Count out / share this equally
The best way is to put a dot in each and work from this down each then back until you've put all 12 in.

4: Count the amount in each group to check it is the same then count 1 group for your answer

$$12 \div 3 = 4$$