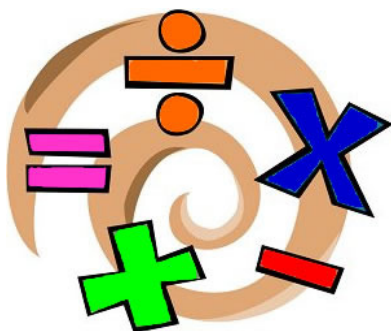




**Totley All Saints**

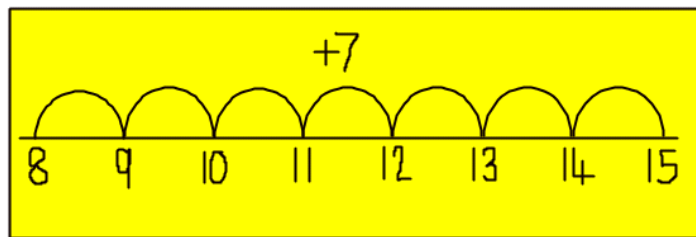
*Growing & learning together!*

# Y1&2 WRITTEN METHODS OF CALCULATION



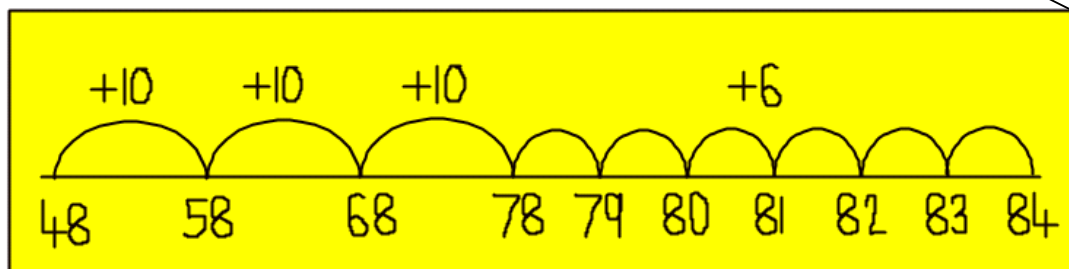
# ADDITION

## STAGE 1: NUMBER LINE



$$8 + 7 = 15$$

- **Draw a number line from 8.**
- **Draw 7 hops.**
- **Count in 1s.**
- **8 add 7 equals 15.**



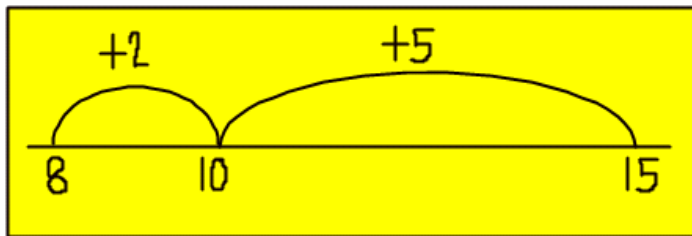
$$48 + 36 = 84$$

- **Draw a number line from 48.**
- **Partition 36 (3 hops of 10 & 6 hops of 1).**
- **Add each part onto 48.**
- **48 add 36 equals 84.**

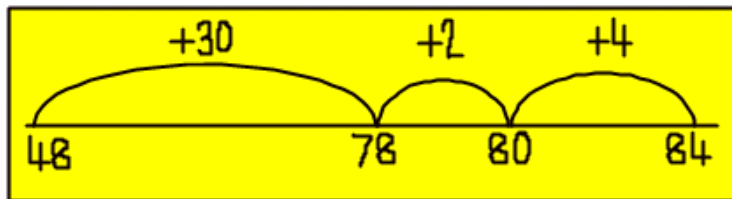


# ADDITION

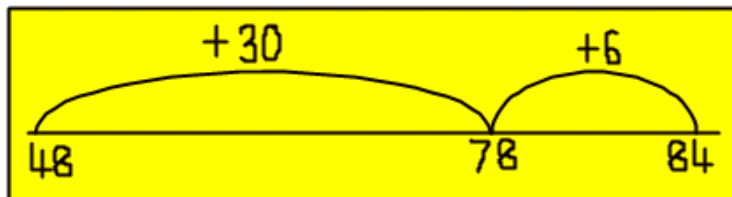
## STAGE 1: NUMBER LINE



$$8 + 7 = 15$$



or



$$48 + 36 = 84$$

- **Draw a number line from 8.**
- **Use number bonds to partition 7.**
- **Add 2 to make 10 & then add 5.**
- **8 plus 7 equals 15**

- **Draw a number line from 48.**
- **Partition 36 (1 hops of 30 & partition 6 or make 1 hop of 6).**
- **Add each part onto 48**
- **48 and 36 equals 84.**



# ADDITION

## STAGE 2: PARTITIONING

$$\begin{array}{r}
 47 \\
 +76 \\
 \hline
 \end{array}
 =
 \begin{array}{r}
 40 + 7 \\
 70 + 6 \\
 \hline
 110 + 13 = 123
 \end{array}$$

- **Write the numbers underneath each other (line up tens & units).**
- **Partition the tens & units.**
- **Add the tens.**
- **Add the units.**
- **Combine your totals.**

$$47 + 76 = 123$$

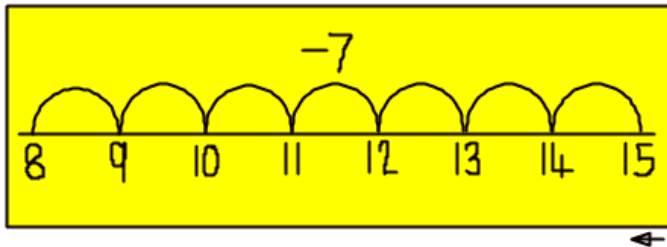


# SUBTRACTION

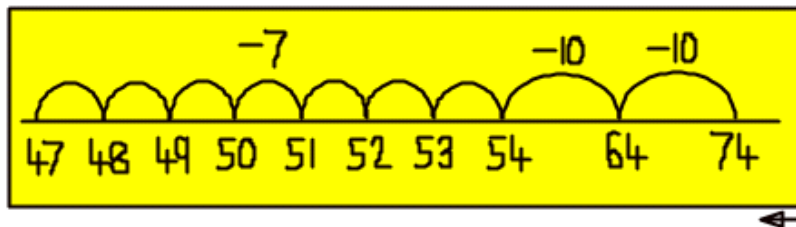


## STAGE 1: NUMBER LINE

COUNTING BACK & PARTITIONING



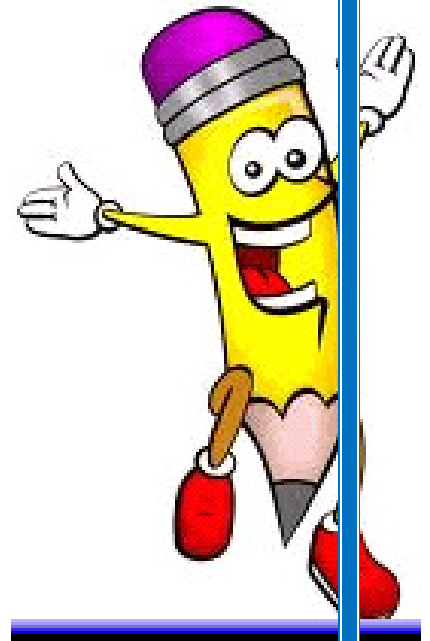
$$15 - 7 = 8$$



$$74 - 27 = 47$$

- **Draw a number line back from 15.**
- **Draw 7 hops.**
- **Count back in 1s.**
- **15 take-away 7 is 8.**

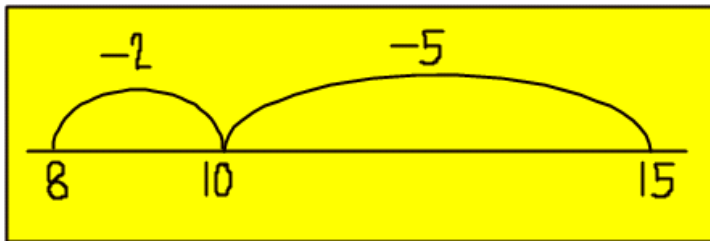
- **Draw a number line back from 74.**
- **Partition 27 (2 hops of 10 & 7 hops of 1).**
- **Subtract each part from 74.**
- **74 minus 27 equals 47.**



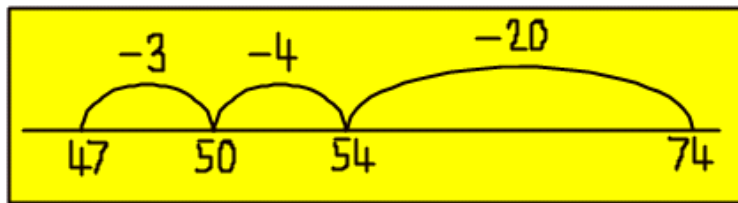
# SUBTRACTION

## STAGE 1: NUMBER LINE

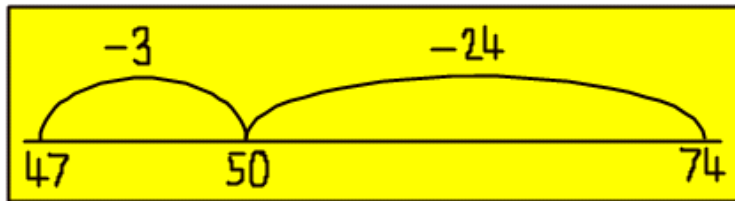
BRIDGING



$$15 - 7 = 8$$



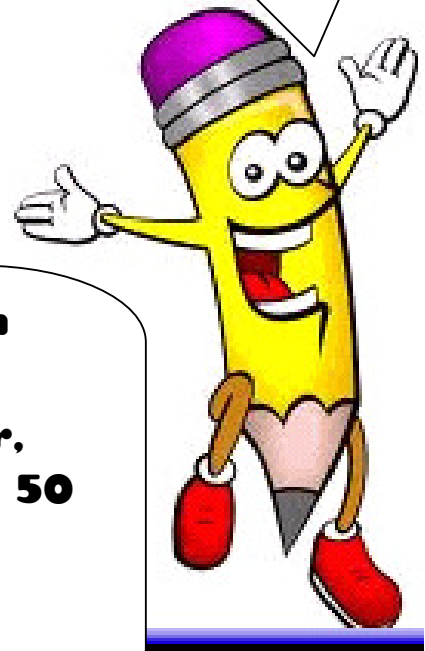
or



$$74 - 27 = 47$$

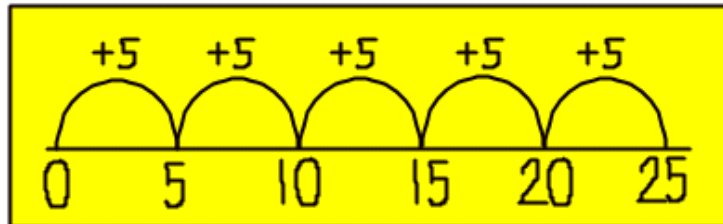
- **Draw a number line back from 15.**
- **Partition 7, to subtract the 5 units in 15 & then the rest (2).**
- **15 minus 7**

- **Draw a number line back from 74.**
- **Partition 27 (into 20 & 3 & 4 or, into 24 & 3, to bridge through 50 as you subtract).**
- **Subtract each hop.**
- **74 minus 27 is 47.**

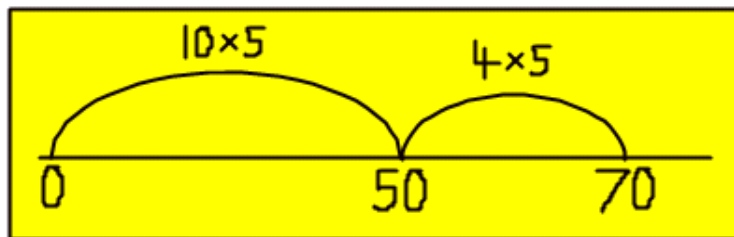


# MULTIPLICATION

## STAGE 1: NUMBER LINE



$$5 \times 5 = 25$$



$$14 \times 5 = 70$$

- **Draw a number line starting at 0.**
- **Draw 5 hops.**
- **Count on in 5s.**
- **5 lots of 5 make 25.**

- **Draw a number line starting at 0.**
- **Partition 14 (1 hop of 10x5 & 1 hop of 4x5).**
- **Multiply each part & add to the total.**
- **14 multiplied by 5 equals 70.**



# MULTIPLICATION

## STAGE 2: MENTAL PARTITIONING

$$\begin{array}{r}
 43 \\
 40 + 3 \\
 \downarrow \quad \downarrow \\
 240 + 18 = 258
 \end{array}
 \times 6$$

$$43 \times 6 = 258$$

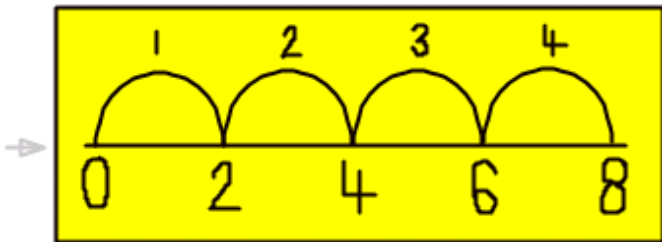
- **Partition 43 into its tens & units.**
- **Multiply 40 & then multiply 18.**
- **Combine your totals.**
- **43 multiplied by 6 equals 258.**





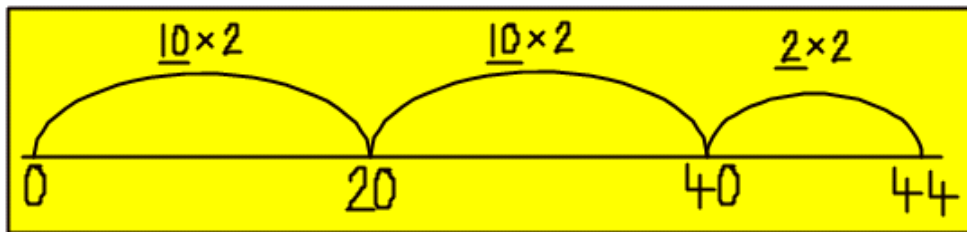
# DIVISION

## STAGE 1: NUMBER LINE



$$8 \div 2 = 4$$

- **Draw a number line starting at 0.**
- **Count on in 2s until 8.**
- **Count how many hops it took.**
- **8 divided by 2 is 4.**



$$44 \div 2 = 22$$

- **Draw a number line starting at 0.**
- **Partition 44 (2 hops of 10x2 & 1 hop of 2x4).**
- **Add up the multiples of 2 to see how many it took.**
- **44 divided by 2 equals 22.**



**Written methods of calculation for each year group:**

<b>ADDITION</b>			
Y1	Y2	Y3	Y4 Y5 Y6
<b>Stage 1</b> Number Line	<b>Stage 2</b> Partitioning	<b>Stage 3</b> Expanded Columns	<b>Stage 4</b> Column Method

<b>SUBTRACTION</b>			
Y1	Y2	Y3	Y4 Y5 Y6
<b>Stage 1</b> Number Line Counting back & Partitioning	<b>Stage 1</b> Number Line Bridging	<b>Stage 2</b> Expanded Columns	<b>Stage 3</b> Column Method

<b>MULTIPLICATION</b>			
Y1	Y2	Y3	Y4 Y5 Y6
<b>Stage 1</b> Number Line	<b>Stage 2</b> Mental Partitioning	<b>Stage 3</b> Expanded Columns	<b>Stage 4</b> Short & Long Multiplication

<b>DIVISION</b>			
Y1 Y2	Y3	Y4 Y5 Y6	
<b>Stage 1</b> Number Line	<b>Stage 2</b> Mental Partitioning	<b>Stage 3</b> Short Division	<b>Stage 4</b> Long Division

Please note: some children may need work in the stage before or after their year group, as appropriate to their needs.