



# MATHEMATICS



**N.S. Yr. 3 P.43**

**Begin to use pencil and paper  
methods of addition**

## Equipment

Paper, pencil, ruler

# MathSphere

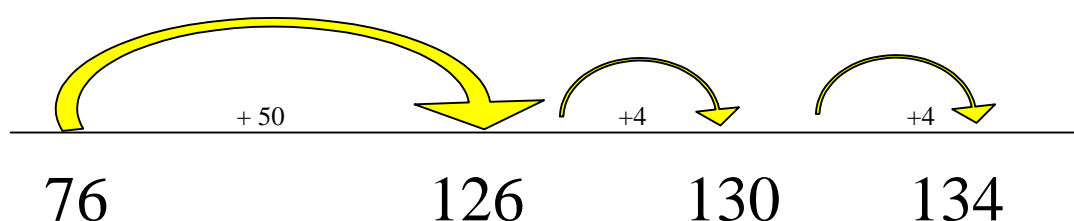
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## Concepts

Pencil and paper methods of addition are not introduced until year 3. To begin with 'jottings' are encouraged to help with the mental methods that children are already familiar with.

Hopping along a number line is a useful way to introduce these 'jottings'.

**For example:  $76 + 58$**



This shows the importance of starting with the most significant digits, in this case the tens and this leads into a more traditional approach:

<b><math>76 + 58</math></b>	or	$\begin{array}{r} 76 \\ + 58 \\ \hline \end{array}$
this line is $70 + 50$	→	120
this line is $6 + 8$	→	<u>14</u>
this is the total	→	134

The sum can also be approached by adding the least significant digits first: in this case the units:

<b><math>76 + 58</math></b>	or	$\begin{array}{r} 76 \\ + 58 \\ \hline \end{array}$
this line is $6 + 8$	→	14
this line is $70 + 50$	→	<u>120</u>
this is the total	→	134

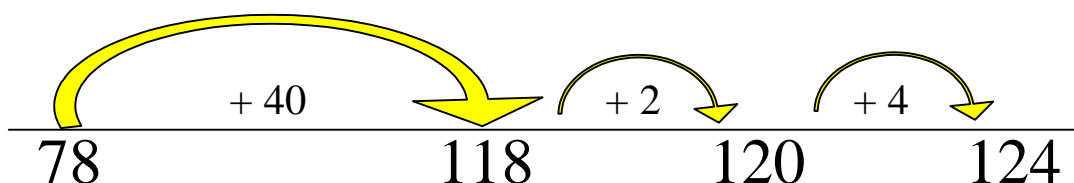
Pages 8 and 9 are identical apart from using the different methods.

Addition by counting on

When adding two larger numbers it is sometimes a good idea to jot down what you are doing, like this:



eg  $78 + 46$



$$78 + 46 = 78 + 40 + 6 = 118 + 6 = 124$$

Try to fill the missing numbers in on these jottings:

1.  $58 + 46 = 58 + \square + 6 = \square + 6 = 104$

2.  $46 + 55 = 46 + \square + 5 = \square + 5 = 101$

3.  $28 + 34 = 28 + \square + 4 = \square + 4 = 62$

4.  $63 + 28 = 63 + \square + 8 = \square + 8 = 91$

Write your own  
jottings down to do  
these sums.



1.  $85 + 48$

Jottings

2.  $77 + 68$

Jottings

3.  $94 + 38$

Jottings

4.  $76 + 58$

Jottings

5.  $47 + 67$

Jottings

Write jottings to help you do these addition sums.



1.  $76 + 58$

Jottings

2.  $84 + 92$

Jottings

3.  $68 + 55$

Jottings

4.  $83 + 28$

Jottings

5.  $57 + 58$

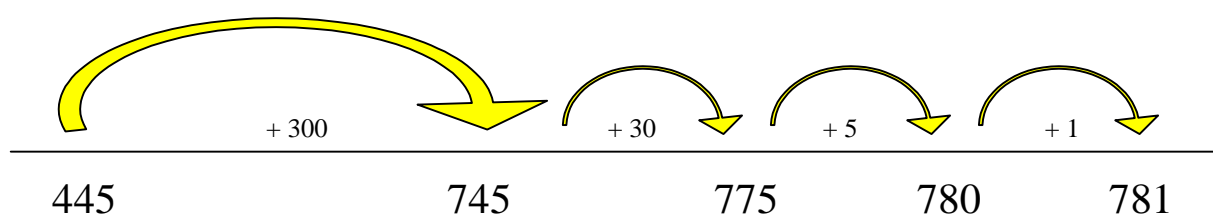
Jottings

### Adding hundreds

When adding hundreds it is difficult to keep all the numbers in your head, so it is a good idea to make some jottings.



$$445 + 336$$



Try doing these additions, with jottings:

1.  $246 + 365$

2.  $453 + 297$

3.  $507 + 444$

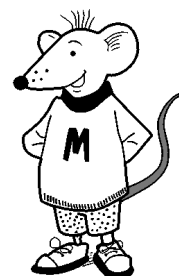
4.  $655 + 218$

5.  $268 + 543$

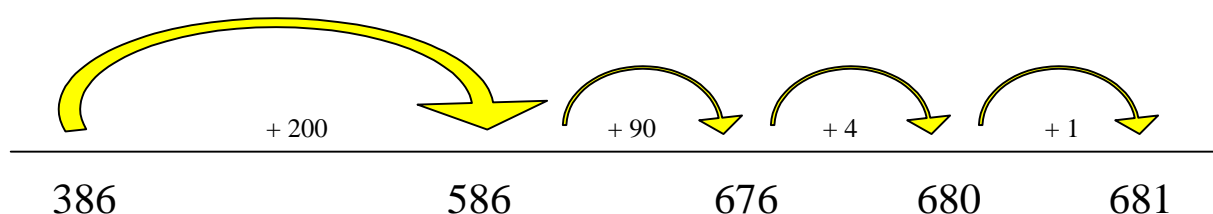
6.  $679 + 122$

### Adding hundreds

When adding hundreds it is difficult to keep all the numbers in your head, so it is a good idea to make some jottings.



$$386 + 295$$



Try doing these additions, with jottings:

1.  $279 + 342$

2.  $464 + 285$

3.  $528 + 465$

4.  $617 + 283$

5.  $188 + 564$

6.  $647 + 169$

**Adding the most significant figure first**

It is often easier to put the numbers underneath each other when adding – but make sure you line up the units under the units and the tens under the tens!

Here is an example:

$$48 + 37 \quad \text{or} \quad \begin{array}{r} 48 \\ + 37 \\ \hline \end{array}$$

this line is $40 + 30$	—————→	$70$
this line is $8 + 7$	—————→	$15$
this is the total	—————→	$85$

Try doing these in the same way:

1.  $\begin{array}{r} 56 \\ + 38 \\ \hline \end{array}$

—

—

2.  $\begin{array}{r} 47 \\ + 36 \\ \hline \end{array}$

—

—

3.  $\begin{array}{r} 65 \\ + 39 \\ \hline \end{array}$

—

—

4.  $\begin{array}{r} 66 \\ + 25 \\ \hline \end{array}$

—

—

5.  $\begin{array}{r} 27 \\ + 48 \\ \hline \end{array}$

—

—

6.  $\begin{array}{r} 78 \\ + 17 \\ \hline \end{array}$

—

—



**Adding the least significant figure first**

It is often easier to put the numbers underneath each other when adding – but make sure you line up the units under the units and the tens under the tens!

Here is an example:

$$\begin{array}{r}
 48 + 37 \quad \text{or} \quad \begin{array}{r} 48 \\ + 37 \\ \hline \end{array} \\
 \text{this line is } 8 + 7 \longrightarrow 15 \\
 \text{this line is } 40 + 30 \longrightarrow 70 \\
 \text{this is the total} \longrightarrow 85
 \end{array}$$

Try doing these in the same way:

1.  $\begin{array}{r} 46 \\ + 28 \\ \hline \end{array}$

—

—

2.  $\begin{array}{r} 57 \\ + 36 \\ \hline \end{array}$

—

—

3.  $\begin{array}{r} 64 \\ + 37 \\ \hline \end{array}$

—

—

4.  $\begin{array}{r} 56 \\ + 27 \\ \hline \end{array}$

—

—

5.  $\begin{array}{r} 37 \\ + 38 \\ \hline \end{array}$

—

—

6.  $\begin{array}{r} 68 \\ + 27 \\ \hline \end{array}$

—

—



Now try these additions, by writing each stage down.  
Make sure that you line up the units and the tens.

$$\begin{array}{r} 1. \quad 45 \\ + 38 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 63 \\ + 29 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 48 \\ + 46 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 66 \\ + 25 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 27 \\ + 48 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 78 \\ + 17 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 54 \\ + 48 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 37 \\ + 75 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 84 \\ + 26 \\ \hline \\ \hline \end{array}$$



You can start at the top or the bottom – but usually it is easiest to start with the larger digit.

$$\begin{array}{r} 1. \quad 53 \\ + 28 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 56 \\ + 34 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 28 \\ + 18 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 58 \\ + 39 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 46 \\ + 63 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 37 \\ + 35 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 63 \\ + 54 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 42 \\ + 69 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 86 \\ + 35 \\ \hline \\ \hline \end{array}$$

Addition using pencil and paper

$$\begin{array}{r} 1. \quad 74 \\ + 48 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 66 \\ + 57 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 84 \\ + 46 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 73 \\ + 84 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 69 \\ + 75 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 94 \\ + 28 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 96 \\ + 35 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 56 \\ + 48 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 68 \\ + 69 \\ \hline \\ \hline \end{array}$$

Addition using pencil and paper

$$\begin{array}{r} 1. \quad 57 \\ + 56 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 64 \\ + 59 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 77 \\ + 54 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 85 \\ + 66 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 78 \\ + 49 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 96 \\ + 38 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 94 \\ + 48 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 58 \\ + 73 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 84 \\ + 89 \\ \hline \\ \hline \end{array}$$

**Answers****Page 3**

1. 40 98      2. 50 96      3. 30 58      4. 20 83

**Page 4**

1. 133      2. 145      3. 132      4. 134      5. 114

**Page 5**

1. 134      2. 176      3. 123      4. 111      5. 115

**Page 6**

1. 611      2. 750      3. 951      4. 873      5. 811      6. 801

**Page 7**

1. 621      2. 749      3. 993      4. 900      5. 752      6. 816

**Page 8**

1. 94      2. 83      3. 104      4. 91      5. 75      6. 95

**Page 9**

1. 74      2. 93      3. 101      4. 83      5. 75      6. 95

**Page 10**

1. 83    2. 92    3. 94    4. 91    5. 75    6. 95    7. 102    8. 112    9. 110

**Page 11**

1. 81    2. 90    3. 46    4. 97    5. 109    6. 72    7. 117    8. 111    9. 121

**Page 12**

1. 122    2. 123    3. 130    4. 157    5. 144    6. 122    7. 131    8. 104    9. 137

**Page 13**

1. 113    2. 123    3. 131    4. 151    5. 127    6. 134    7. 142    8. 131    9. 173