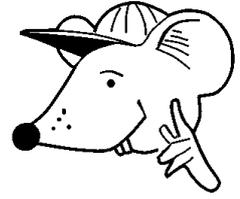


# MATHEMATICS



**N.S. Yr. 5 P.35**

**Understanding addition and its relationship  
to subtraction**

## **Equipment**

Paper, pencil, calculator

# MathSphere

© MathSphere P.O. Box 1234 Worthing BN13 2UJ [www.mathsphere.co.uk](http://www.mathsphere.co.uk)

### Concepts

Children will continue to meet a variety of vocabulary associated with addition. These include:

***More, add, sum, total, altogether, increase, equals, sign, inverse.***

These words should be used as often as possible, especially when speaking about what to do, how to do it, etc.

Developing on previous work, they need to understand that **716 + 524** is the same as **524 + 716**

*(this is called the commutative law, but children do not need to know the word!)*

and that:

**(25 + 14) + 71** can be worked out in several different orders  
eg **25 + (14 + 71)** will give the same answer as the above order.  
*(the associative law)*

It is important that children have real confidence with adding any two digit numbers ( eg 42 and 58 ) and that they have a variety of strategies or approaches, depending on the numbers involved - sometimes it is easier to start with the tens, but not always. Constant practice, often not on paper, of these tens and units additions will make larger mental addition much easier.

It is expected that children will usually use mental methods to add two digit numbers - NOT write the sum down.

Children are also expected to understand that subtraction is the opposite of addition and that it can be used to check addition questions.

Where calculators are used the child should make an estimate of the answer first.

## Addition

Without using a pencil and paper method, work the answers out to these three number addition problems:

1.  $13 + 8 + 18$     2.  $5 + 15 + 12$     3.  $7 + 11 + 13$     4.  $18 + 7 + 13$

5.  $12 + 8 + 14$     6.  $15 + 13 + 3$     7.  $13 + 5 + 12$     8.  $18 + 2 + 16$

9.  $16 + 14 + 6$     10.  $5 + 13 + 18$     11.  $12 + 4 + 16$     12.  $15 + 9 + 18$

**Remember:  $37 + 84$  is the same as  $84 + 37$ .**

**So we can write:**

$$84 + 37 = 37 + 84$$

**They both come to 121.**

**In the same way:**

$$47 + 39 = 39 + 47$$

**Fill in the gap in the sums below:**

13.  $524 + 136 = 136 + \square$

14.  $294 + 176 = \square + 294$

15.  $622 + 220 = \square + 622$

16.  $359 + 168 = 168 + \square$

Knowing this helps when adding in your head! It does not matter what order you do it in.



**Addition**

**Without using a pencil and paper method, work the answers out to these three number addition problems:**

( You may like to time yourself, to see how quickly you can do these!)

**1.**  $13 + 5 + 15$     **2.**  $4 + 16 + 17$     **3.**  $12 + 18 + 9$     **4.**  $15 + 15 + 3$

**5.**  $18 + 7 + 15$     **6.**  $17 + 3 + 14$     **7.**  $17 + 8 + 8$     **8.**  $8 + 11 + 15$

**9.**  $12 + 17 + 14$     **10.**  $12 + 18 + 19$     **11.**  $13 + 9 + 16$     **12.**  $15 + 2 + 14$

**Reminder:**  $122 + 255$  is the same as  $255 + 122$ .

**So we can write:**

$$122 + 255 = 255 + 122$$

**They both come to 377.**

**In the same way:**

$$345 + 543 = 543 + 345$$

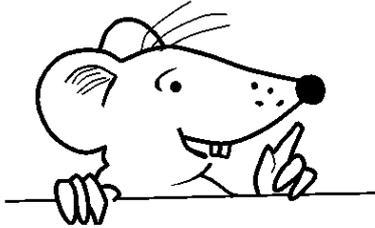
**Fill in the gap in the sums below:**

**13.**  $543 + 218 = 218 + \square$     **14.**  $294 + 219 = \square + 294$

**15.**  $511 + 238 = \square + 511$     **16.**  $577 + 529 = 529 + \square$

You can use this to help you with some sums!



Addition and subtraction

Did you remember that addition and subtraction are opposites?

So: if  $215 + 27 = 242$

Then:

$242 - 27$  will equal 215

and:

$242 - 215$  will equal 27

**Yes! Subby is right. Try putting the correct number in the box without doing the addition or subtraction sum:**

1. If  $157 + 49 = 206$  then  $206 - 49 =$

2. If  $253 + 48 = 301$  then  $301 - 48 =$

3. If  $163 + 176 = 339$  then  $339 -$    $= 163$

4. If  $632 + 58 = 690$  then  $690 -$    $= 58$

**Now try these:**

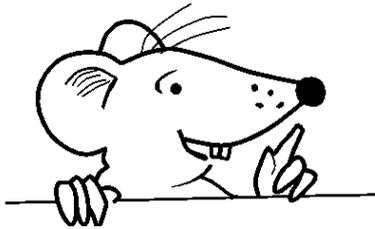
5. If  $187 - 39 = 148$  then  $148 + 39 =$

6. If  $165 - 46 = 119$  then  $119 + 46 =$

7. If  $180 - 54 = 126$  then  $180 - 126 =$

8. If  $174 - 79 = 95$  then  $174 - 95 =$

Investigate: try writing your own sums like the ones above. If you want you can check your results with a calculator.

Addition and subtraction

I am sure you know that addition and subtraction are opposites.

So: if  $312 + 118 = 430$

Then:

$430 - 312$  will equal 118

and:

$430 - 118$  will equal 312

**Yes! Subby is right, yet again. Try putting the correct number in the boxes below without doing the addition or subtraction sum:**

1. If  $164 + 36 = 200$  then  $200 - 164 =$

2. If  $186 + 58 = 244$  then  $244 - 186 =$

3. If  $185 + 26 = 211$  then  $211 -$    $= 26$

4. If  $152 + 69 = 221$  then  $221 -$    $= 69$

**Now try these:**

5. If  $88 - 39 = 49$  then  $39 + 49 =$

6. If  $231 - 76 = 155$  then  $155 + 76 =$

7. If  $193 - 57 = 136$  then  $193 - 136 =$

8. If  $184 - 95 = 89$  then  $184 - 89 =$

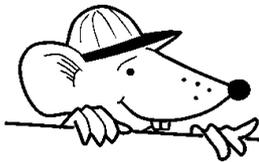
Investigate: try writing your own sums like the ones above. If you want you can check your results with a calculator.

### Addition

When we work out answers in our head we often do them in a different way than on paper.

Eg

$$125 + 36$$



I find it easier if I start with the HUNDREDS and TENS.

120 and 30 make 150

Add on 6 makes 156

Count on 5 more to make 161

125 add 36 makes 161.

Try to work all these out in your head. Only put the answer down on paper - do not do any working out on paper.

1.  $145 + 53$

2.  $165 + 43$

3.  $111 + 36$

4.  $111 + 50$

5.  $119 + 90$

6.  $135 + 37$

7.  $148 + 49$

8.  $153 + 62$

9.  $124 + 56$

10.  $166 + 36$

11.  $188 + 24$

12.  $128 + 43$

13.  $119 + 62$

14.  $189 + 12$

15.  $137 + 63$

16.  $156 + 36$

17.  $129 + 49$

18.  $137 + 38$

19.  $149 + 29$

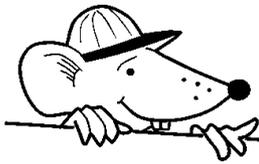
20.  $158 + 26$

### Addition

When we work out answers in our head we often do them in a different way than on paper.

Eg

$$128 + 47$$



Remember: start with the HUNDREDS and TENS.

120 and 40 make 160

Add on 8 makes 168

Count on 7 more to make 175

128 add 47 makes 175.

Try to work all these out in your head. Only put the answer down on paper - do not do any working out on paper.

1.  $154 + 63$

2.  $175 + 34$

3.  $152 + 46$

4.  $138 + 60$

5.  $169 + 50$

6.  $156 + 26$

7.  $123 + 79$

8.  $174 + 38$

9.  $155 + 57$

10.  $176 + 26$

11.  $158 + 54$

12.  $149 + 53$

13.  $131 + 72$

14.  $169 + 90$

15.  $138 + 90$

16.  $187 + 36$

17.  $149 + 51$

18.  $188 + 23$

19.  $160 + 39$

20.  $171 + 29$

**Addition**

**Answer the questions below. Work out the sums in your head and only write down the answer.**

1. 360 add 410

2. 370 add 420

3. 390 add 810

4. 670 add 160

5. add 406 to 642

6. add 517 to 128

7. add 235 to 333

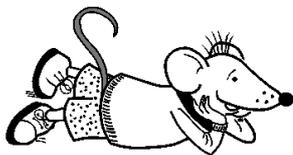
8. add 209 to 149

9. 28 add 12 add 35

10. 37 add 19 add 23

11. 16 add 28 add 48

12. 77 add 16 add 9



Let's see how quick you are. Set yourself a time target for the next section.

13. What is the sum of 360 and 155 ?

14. What is the total of 38 and 179 ?

15. How many altogether are 266 and 470 ?

16. Increase 529 by 418.

17. What is the total of 73, 82 and 31 ?

18. Increase 411 by 68.

19. How many altogether are 43, 32 and 21 ?

20. What is the total of 543 and 41 ?

**Addition**

**Answer the questions below. Work out the sums in your head and only write down the answer.**

1. 470 add 1 200

2. 520 add 4 300

3. 760 add 8 300

4. 780 add 7 200

5. add 278 to 418

6. add 639 to 177

7. add 414 to 624

8. add 470 to 5 200

9. 17 add 53 add 48

10. 38 add 28 add 95

11. 26 add 71 add 18

12. 66 add 41 add 27



I think these are very tricky!

13. What is the sum of 2 700 and 800 ?

14. What is the total of 3 400 and 180 ?

15. How many altogether are 421 and 277 ?

16. Increase 72 by 73.

17. What is the total of 135, 54 and 45 ?

18. Increase 208 by 170.

19. How many altogether are 63, 52 and 19 ?

20. What is the total of 255 and 115 ?

### Mental Addition

Fill in the boxes with the correct number to make these questions correct:

1.  $46 + 79 =$

2.  $125 + 560 =$

3.  + 580 = 608

4.  + 402 = 710

5.  $360 +$   = 900

6.  $409 +$   = 1 000

Sometimes it's easier to subtract to work out the answer to an addition problem - strange eh!



7. What is the sum of 340, 36 and 60 ?

8. Add 180 to 890.

9. How many altogether are 201, 71 and 19 ?

10. Increase 650 by 290.

11. What is the total of 550 and 770 ?

12. Find the total of 43, 54 and 68.

### Mental Addition

Fill in the boxes with the correct number to make these questions correct:

1.  $580 + 66 = \square$

2.  $560 + 76 = \square$

3.  $\square + 96 = 200$

4.  $\square + 320 = 820$

5.  $170 + \square = 500$

6.  $460 + \square = 1\ 000$

Look for units that add up to 10 such as 3 and 7. This makes the sum easier to do.



7. What is the sum of 360 45 and 15 ?

8. Add 220 to 780.

9. How many altogether are 48, 22 and 90 ?

10. Increase 73 by 93.

11. What is the total of 350 and 670 ?

12. Find the total of 65 58 and 12.

**Mental addition using decimals**

Work the answers to these problems in your head:

1.  $2.7 + 3.8 =$

2.  $1.5 + 3.6 =$

3.  $4.8 + 2.9 =$

4.  $5.3 + 6.7 =$

5.  $9.2 + 3.7 =$

6.  $8.8 + 8.8 =$

7.  $5.6 + 0.8 =$

8.  $7.2 + 4.8 =$

Don't worry about the decimal point. Treat it as any other addition, but remember to include the point in your answer.



Put in the missing decimal to make these sums add up to 1 :

9.  $0.6 + \square = 1$

10.  $0.3 + \square = 1$

11.  $0.1 + \square = 1$

12.  $0.8 + \square = 1$

Put in the missing decimal to make these sums add up to 10 :

13.  $3.5 + \square = 10$

14.  $6.8 + \square = 10$

15.  $2.6 + \square = 10$

16.  $1.4 + \square = 10$

**Mental addition using decimals**

Work the answers to these problems in your head:

1.  $3.8 + 4.9 =$

2.  $4.7 + 8.5 =$

3.  $5.9 + 3.0 =$

4.  $6.4 + 7.8 =$

5.  $0.7 + 4.8 =$

6.  $9.9 + 9.9 =$

7.  $6.7 + 1.3 =$

8.  $8.4 + 5.5 =$

I usually start with the units, then add on the tenths - how do you do these?



Put in the missing decimal to make these sums add up to 1 :

9.  $0.5 + \square = 1$

10.  $0.4 + \square = 1$

11.  $0.2 + \square = 1$

12.  $0.9 + \square = 1$

Put in the missing decimal to make these sums add up to 10 :

13.  $4.6 + \square = 10$

14.  $8.5 + \square = 10$

15.  $6.2 + \square = 10$

16.  $4.1 + \square = 10$

**Addition - calculator work**

Using a calculator find the answers to the following problems:

1.  $52\,498 + 4\,680 = \square$

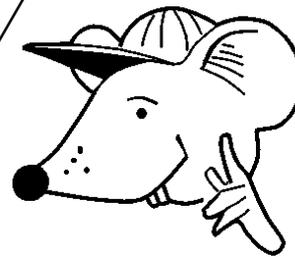
2.  $31\,904 + 7\,850 = \square$

3.  $970 + \square = 1\,051$

4.  $530 + \square = 1\,007$

5.  $280 + 37 + \square = 900$

Strangely enough,  
you do not have to  
add to solve some of  
these addition  
problems!



Use a calculator to total up these measurements:

6.  $28.7\text{ km} + 45\text{ km} + 1.9\text{ km} + 200\text{ km}$

7.  $52.8\text{ km} + 123\text{ km} + 45.6\text{ km} + 87\text{ km}$

8.  $177\text{ km} + 500\text{ km} + 12.9\text{ km} + 0.8\text{ km}$

Using a calculator add up these amounts:

9.  $\text{£}34.55 + \text{£}0.65 + \text{£}120 + \text{£}45.99$

10.  $\text{£}450 + \text{£}35.50 + \text{£}25.55 + \text{£}5.25$

Addition - calculator work

Using a calculator find the answers to the following problems:

1.  $60\,578 + 5\,920 =$

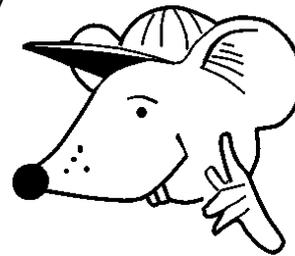
2.  $30\,689 + 2\,940 =$

3.  $184 +$    $= 1\,000$

4.  $604 +$    $= 2\,000$

5.  $45 + 99 +$    $= 600$

Can you think of a way of checking your answers are correct?



6. Use a calculator to total up these car prices in a second hand car showroom:

Afford showrooms		Cost a lot showrooms	
Ford	£7 990	Volkswagon	£6 950
Volvo	£12 399	Renault	£8 999
Citreon	£8 990	Peugeot	£10 599
Vauxhall	£9 599	Jaguar	£15 890

7. What is the difference in price between the most expensive car and the cheapest car?

8. What was the total cost of all eight cars?

**Answers****Page 3**

1. 39   2. 32   3. 31   4. 38   5. 34   6. 31   7. 30   8. 36   9. 36   10. 36  
11. 32   12. 42   13. 524   14. 176   15. 220   16. 359

**Page 4**

1. 33   2. 37   3. 39   4. 33   5. 40   6. 34   7. 33   8. 34   9. 43   10. 49  
11. 38   12. 31   13. 543   14. 219   15. 238   16. 577

**Page 5**

1. 157   2. 253   3. 176   4. 632   5. 187   6. 165   7. 54   8. 79

**Page 6**

1. 36   2. 58   3. 185   4. 152   5. 88   6. 231   7. 57   8. 95

**Page 7**

1. 198   2. 208   3. 147   4. 161   5. 209   6. 172   7. 197   8. 215   9. 180   10. 202  
11. 212   12. 171   13. 181   14. 201   15. 200   16. 192   17. 178   18. 175   19. 178   20. 184

**Page 8**

1. 217   2. 209   3. 198   4. 198   5. 219   6. 182   7. 202   8. 212   9. 212   10. 202  
11. 212   12. 202   13. 203   14. 259   15. 228   16. 223   17. 200   18. 211   19. 199   20. 200

**Page 9**

1. 770   2. 790   3. 1 200   4. 830   5. 1 048   6. 645   7. 568   8. 358   9. 75   10. 79  
11. 92   12. 102   13. 515   14. 217   15. 736   16. 947   17. 186   18. 479   19. 96   20. 584

**Page 10**

1. 1 670   2. 4 820   3. 9 060   4. 7 980   5. 696   6. 816   7. 1 038  
8. 5 670   9. 118   10. 161   11. 115   12. 134   13. 3 500   14. 3 580  
15. 698   16. 145   17. 234   18. 378   19. 134   20. 370

**Page 11**

1. 125   2. 685   3. 28   4. 308   5. 540   6. 591  
7. 436   8. 1 070   9. 291   10. 940   11. 1 320   12. 165

**Page 12**

1. 646   2. 636   3. 104   4. 500   5. 340   6. 540  
7. 420   8. 1 000   9. 160   10. 166   11. 1 020   12. 135

**Page 13**

1. .6.5 2. 5.1 3. 7.7 4. 12 5. 12.9 6. 17.6 7. 6.4 8. 12  
9. 0.4 10. 0.7 11. 0.9 12. 0.2 13. 6.5 14. 3.2 15. 7.4 16. 8.6

**Page 14**

1. 8.7 2. 13.2 3. 8.9 4. 14.2 5. 5.5 6. 19.8 7. 8 8. 13.9  
9. 0.5 10. 0.6 11. 0.8 12. 0.1 13. 5.4 14. 1.5 15. 3.8 16. 5.9

**Page 15**

1. 57 178 2. 39 754 3. 81 4. 477 5. 583 6. 275.6 km  
7. 308.4 km 8. 690.7 9. £201.19 10. £516.30

**Page 16**

1. 66 498 2. 33 629 3. 816 4. 1 396 5. 456  
6. Afford - £38 978 Cost a lot - £42 438 7. £8 940 8. £81 416