

Key Vocabulary
Add
Total
Make
Plus
Sum
More
Altogether
Difference
Subtract
Less
Minus
Take away
Column addition
Column subtraction
Estimate
Inverse operation
Number facts
Place value
Complex

**Addition**

Place Value Grid:  $3274 + 5601 = 8875$

Th	
H	
T	
O	

**Column Method**

Starting with the ones, add each column in turn. Regroup tens, hundreds, thousands, ten thousands and/or as required.

$$\begin{array}{r} 45864 \\ +23497 \\ \hline 69361 \\ 111 \end{array}$$

**Subtraction**

Place Value Grid:  $35\ 727 - 6313 = 29\ 414$

TTh		2 ten thousands left
Th		5 thousands - 6 thousands cannot be done. Exchange ten thousand for ten thousands becoming 15 thousands - 6 thousands = 9 thousands
H		7 hundreds - 3 hundreds = 4 hundreds
T		2 tens - 1 ten = 1 ten
O		7 ones - 3 ones = 4 ones

**Column Method**

Starting with the ones, subtract each column in turn. Exchange tens, hundreds, thousands and/or ten thousands as required.

$$\begin{array}{r} 35\ 727 \\ - 6\ 313 \\ \hline 29\ 414 \end{array}$$

**Estimate and Approximate**

**Rounding to Estimate**

$41\ 635 + 7386 = 49\ 021$

Round to ten:

$41\ 630 + 7380 = 49\ 010$

$41\ 630 + 7390 = 49\ 020$

$41\ 640 + 7390 = 49\ 030$

Rounding is not as accurate when both numbers are rounded up. A better estimate comes from "rounding" one down and one up.

**Estimating on a Number Line**

The arrow is about  $\frac{3}{4}$  of the way across the line so it is 40 000.

**Inverse Operations**

Use the inverse to check:

53 476	To check $53\ 476 - 32\ 732 = 20\ 744$
32 732	use $32\ 732 + 20\ 744 = 53\ 476$

Start with a number, subtract 409 and double. I end with 6264. To find the starting number use the inverse: halve, then add 409. Half of 6264 = 3132.  $3132 + 409 = 3541$ . The starting number was 3541.

**Multistep Problems**

**Using a Bar Model**

The sum of two numbers is 25 567.  
The difference is 1875.

Subtract 1875 from 25 567 = 23 692.  
Halve 23 692 to find smaller number = 11 846.  
Add 1875 to find larger number = 13 721.

£20	£20 is used to buy 2 books costing		
£3.75	£8.49	?	£3.75 and £8.49.
£12.24	£7.76	How much change is given?	

$£3.75 + £8.49 = £12.24$   
 $£20.00 - £12.24 = £7.76$



