



Key Vocabulary
add
total
make
plus
sum
more
altogether
difference
subtract
less
minus
take away
column addition
column subtraction
estimate
inverse operation
number facts

Addition	Subtraction																																																																															
<p>Place Value Grid: $3274 + 5601 = 8875$</p> <table style="width: 100%; text-align: center;"> <tr style="background-color: #00AEEF; color: white;"> <td style="width: 25px; font-weight: bold;">Th</td> <td style="width: 25px;">1000</td><td style="width: 25px;">1000</td><td style="width: 25px;">1000</td><td style="width: 25px;">1000</td> </tr> <tr> <td style="background-color: #00AEEF; color: white;">1000</td><td style="background-color: #00AEEF; color: white;">1000</td><td style="background-color: #00AEEF; color: white;">1000</td><td style="background-color: #00AEEF; color: white;">1000</td><td></td> </tr> <tr style="background-color: #00AEEF; color: white;"> <td style="font-weight: bold;">H</td> <td>100</td><td>100</td><td>100</td><td>100</td> </tr> <tr> <td style="background-color: #00AEEF; color: white;">100</td><td style="background-color: #00AEEF; color: white;">100</td><td style="background-color: #00AEEF; color: white;">100</td><td style="background-color: #00AEEF; color: white;">100</td><td></td> </tr> <tr style="background-color: #00AEEF; color: white;"> <td style="font-weight: bold;">T</td> <td>10</td><td>10</td><td>10</td><td>10</td> </tr> <tr> <td style="background-color: #00AEEF; color: white;">10</td><td style="background-color: #00AEEF; color: white;">10</td><td style="background-color: #00AEEF; color: white;">10</td><td style="background-color: #00AEEF; color: white;">10</td><td></td> </tr> <tr style="background-color: #00AEEF; color: white;"> <td style="font-weight: bold;">O</td> <td>1</td><td>1</td><td>1</td><td>1</td> </tr> <tr> <td style="background-color: #00AEEF; color: white;">1</td><td style="background-color: #00AEEF; color: white;">1</td><td style="background-color: #00AEEF; color: white;">1</td><td style="background-color: #00AEEF; color: white;">1</td><td style="background-color: #00AEEF; color: white;">1</td> </tr> </table> <p>Column Method Starting with the ones, add each column in turn. Regroup tens, hundreds, thousands, ten thousands and/or as required.</p> <div style="text-align: center; border: 2px solid #00AEEF; border-radius: 50%; padding: 10px; width: fit-content; margin: 0 auto;"> $\begin{array}{r} 45864 \\ +23497 \\ \hline 69361 \\ \hline 111 \end{array}$ </div>	Th	1000	1000	1000	1000	1000	1000	1000	1000		H	100	100	100	100	100	100	100	100		T	10	10	10	10	10	10	10	10		O	1	1	1	1	1	1	1	1	1	<p>Place Value Grid: $35\ 727 - 6\ 313 = 29\ 414$</p> <table style="width: 100%; text-align: center;"> <tr style="background-color: #00AEEF; color: white;"> <td style="width: 25px; font-weight: bold;">TTh</td> <td style="width: 25px;">10 000</td><td style="width: 25px;">10 000</td><td style="width: 25px;">10 000</td> </tr> <tr> <td style="background-color: #00AEEF; color: white;">10 000</td><td style="background-color: #00AEEF; color: white;">10 000</td><td style="background-color: #00AEEF; color: white;">10 000</td><td></td> </tr> <tr style="background-color: #00AEEF; color: white;"> <td style="font-weight: bold;">Th</td> <td>1000</td><td>1000</td><td>1000</td> </tr> <tr> <td style="background-color: #00AEEF; color: white;">1000</td><td style="background-color: #00AEEF; color: white;">1000</td><td style="background-color: #00AEEF; color: white;">1000</td><td style="background-color: #00AEEF; color: white;">1000</td> </tr> <tr style="background-color: #00AEEF; color: white;"> <td style="font-weight: bold;">H</td> <td>100</td><td>100</td><td>100</td> </tr> <tr> <td style="background-color: #00AEEF; color: white;">100</td><td style="background-color: #00AEEF; color: white;">100</td><td style="background-color: #00AEEF; color: white;">100</td><td style="background-color: #00AEEF; color: white;">100</td> </tr> <tr style="background-color: #00AEEF; color: white;"> <td style="font-weight: bold;">T</td> <td>10</td><td>10</td> </tr> <tr> <td style="background-color: #00AEEF; color: white;">10</td><td style="background-color: #00AEEF; color: white;">10</td><td></td><td></td> </tr> <tr style="background-color: #00AEEF; color: white;"> <td style="font-weight: bold;">O</td> <td>1</td><td>1</td><td>1</td> </tr> <tr> <td style="background-color: #00AEEF; color: white;">1</td><td style="background-color: #00AEEF; color: white;">1</td><td style="background-color: #00AEEF; color: white;">1</td><td style="background-color: #00AEEF; color: white;">1</td> </tr> </table> <p>Column Method Starting with the ones, subtract each column in turn. Exchange tens, hundreds, thousands and/or ten thousands as required.</p> <div style="text-align: center; border: 2px solid #00AEEF; border-radius: 50%; padding: 10px; width: fit-content; margin: 0 auto;"> $\begin{array}{r} 35742 \\ - 6313 \\ \hline 29414 \end{array}$ </div>	TTh	10 000	10 000	10 000	10 000	10 000	10 000		Th	1000	1000	1000	1000	1000	1000	1000	H	100	100	100	100	100	100	100	T	10	10	10	10			O	1	1	1	1	1	1	1
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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 $53\ 476 - 32\ 732 = 20\ 744$ use $32\ 732 + 20\ 744 = 53\ 476$
32 732 20 744	

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	?
£12.24	£7.76	How much change is given?

$$£3.75 + £8.49 = £12.24$$

$$£20.00 - £12.24 = £7.76$$

The sum of two numbers is 15 830. The difference is 1483. How can you calculate what those two numbers are? How can a bar model help? Do you have another method of solving this problem? What is the same and what is different about these methods?