

Written Adding and Subtracting



This sort of stuff is really important and it will keep coming up everywhere. It may seem a bit tricky at first but once you get the knack it's not too bad.

Adding Numbers

- 1) Write the numbers on top of each other with the ones lined up.
- 2) Start at the right and add up the numbers in each column.
- 3) If one of the columns adds to an answer of 10 or more,
 - write down the right-hand digit of the answer.
 - carry the left-hand digit to the next column on the left.



EXAMPLE:

Work out $681 + 556$ without using a calculator.

1)
$$\begin{array}{r} \text{HT O} \\ 681 \\ + 556 \\ \hline 7 \end{array}$$

Add the ones column first.
 $1 + 6 = 7$

2)
$$\begin{array}{r} \text{HT O} \\ 681 \\ + 556 \\ \hline 37 \end{array}$$

Add the tens column next.
 $8 + 5 = 13$ tens
 ...10 tens = 100. So carry 100 to the hundreds column.

The 3 goes in the tens answer space...

3) Add the hundreds column next.

$$\begin{array}{r} \text{HT O} \\ 681 \\ + 556 \\ \hline 237 \end{array}$$

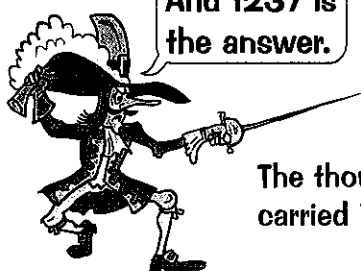
$6 + 5 + 1 = 12$ hundreds
 2 goes in the hundreds column...
 ...10 hundreds = 1000. So carry 1000 to the thousands column.

Always remember to include the carried digits when adding.

4)
$$\begin{array}{r} \text{Th HT O} \\ 681 \\ + 556 \\ \hline 1237 \end{array}$$

Finally, add the thousands column.

And 1237 is the answer.



The thousands column is empty except for the carried 1000. So the 1 goes in the answer.



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The numbers may have a different number of digits, or have missing digits that you need to find.

Here are some More Examples

EXAMPLE: Work out $134 + 3152$ without using a calculator.

This one's easy as long as you write it with the ones lined up correctly like this:

$$\begin{array}{r} \text{ThHT O} \\ 134 \\ + 3152 \\ \hline \end{array}$$

and NOT like this:

$$\begin{array}{r} \text{ThHT O} \\ 134 \\ + 3152 \\ \hline \end{array}$$

Adding up each column (from right to left) we get:

$$\begin{array}{r} \text{ThHT O} \\ 134 \\ 3152 \\ \hline 3286 \end{array}$$

The order of adding doesn't matter. $243 + 142$ is the same as $142 + 243$.



EXAMPLE: Find the missing digits in the sum $3\square 2 + 55\square = 915$

1) As usual, start with the ones, then do the tens and so on.

$$\begin{array}{r} \text{HT O} \\ 3\square 2 \\ + 55\square \\ \hline 915 \end{array}$$

2 plus something is 5. Easy: $2 + 3 = 5$, so 3 goes here.

Remember: '=' means 'equals' — the total on each side of an equals sign is the same.

2) Now look at the tens.

$$\begin{array}{r} \text{HT O} \\ 3\square 2 \\ + 55\square 3 \\ \hline 915 \end{array}$$

We can't add anything to 5 to get 1. But: $6 + 5 = 11$. This will give the 1 we need for the tens answer. (10 tens = 100, so the other 1 digit is carried to the H column.)

3) Check that the H column works.

$$\begin{array}{r} \text{HT O} \\ 3\square 2 \\ + 55\square 3 \\ \hline 915 \\ \hline 1 \end{array}$$

$3 + 5 + 1 = 9$
So it works.

The carried 100 from the tens column.

At the end, add up the numbers to CHECK that they give the right answer.

Adding — that's the noise my doorbell makes...

Do the following without using a calculator:

1) $13 + 25$

2) $64 + 35$

3) $164 + 12$

4) $286 + 46$

5) $325 + 87$

6) $123 + 112$

7) $364 + 274$

8) $687 + 272$

9) $586 + 596$

10) $1425 + 213$

11) $1052 + 152$

12) $46521 + 1529$