

Math Methods Help Sheet
Addition and Subtraction

Addition - Expanded

$$163 + 94 = 257$$

$$\begin{array}{r} 163 \\ + 94 \\ \hline 7 \quad (3 + 4) \\ 150 \quad (60 + 90) \\ 100 + (100 + 0) \\ \hline 257 \end{array}$$

When using the expanded method you break down each element of a number.

- ① Add the units. e.g. $3 + 4$
- ② Add the tens. e.g. $60 + 90$
- ③ Add the hundreds. e.g. $100 + 0$

④ Once you have each of these numbers you add them all together to give you a final total.

e.g.

$$\begin{array}{r} 7 \\ 150 \\ + 100 \\ \hline 257 \end{array}$$

Addition - Compact

$$642 + 136 = 778$$

$$\begin{array}{r} 642 \\ + 136 \\ \hline 778 \end{array}$$

① Once you have laid out your sum add together the units and record under the line.

② Add the tens and record how many tens you have.

e.g. $40 + 30 = 70$



7 tens.

③ Add the hundreds and record how many hundreds you have.

e.g. $600 + 100 = 700$



7 hundreds.

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Addition - Compact with carrying

$$493 + 128 = 621$$

$$\begin{array}{r} 493 \\ 128 + \\ \hline 621 \end{array}$$

① Lay out the sum, lining up the units, tens and hundreds.

② Add together the units. If they make a total over 10 you need to record the units in the first column and record any tens as a small number under the tens column.

$$\text{e.g. } 3 + 8 = 11$$

1 ten 1 unit

③ Add together the tens.
e.g. $90 + 20 = 110$
You will also need to add any tens below the column.
e.g. $110 + 10 = 120$
Record the tens in the tens column and carry any hundreds under the hundreds column. DON'T forget to cross off the ten underneath.

④ Add together the hundreds.
e.g. $400 + 100 = 500$
Then add any hundreds below the column.
e.g. $500 + 100 = 600$
Record your answer in the hundreds column.

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Subtraction

Number line counting on
(FOR NEAR DIFFERENCES)

$1754 - 1561 =$

② Record jump amount in each jump

① Round up to the nearest 10, 100, 1000 for each jump.

smaller number larger number

③ Use column addition to total the amount in each jump.

	100
	54
	30
	9
Difference =	<u>193</u>

Subtraction - partitioning

$326 - 78$

$326 = 70 = 256$
 $256 = 6 = 250$
 $250 = 2 = 248$

Subtraction - expanded

Use dienes as equipment to help solve and see what is happening in the sum, particularly for sums that involve exchanging.

$272 - 48 =$

① partition the numbers horizontally

200	70	2
<hr/>		
	40	8

② Solve and put answers below or if can't do exchange in next column

200	60	12
<hr/>		
200	20	4

③ compact again - 224

Subtraction - Compact

See if it is a take-away you can or can't!

272
- 48
<hr/>
224

↑ exchange

279
- 48
<hr/>
231

↑ no exchange