

Key vocabulary

add, addition, sum, total, more, altogether, column addition, subtract, difference, minus, less, take away, column subtraction, exchange, estimate, inverse, operation, place value, mental, written, method, calculate, digit, fact

Add and subtract mentally (a 3-digit number and 1s, 10s or 100s)

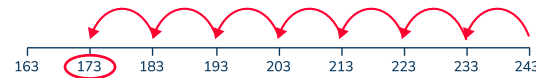
When we add and subtract a 3-digit number and 1s, we sometimes need to cross a tens boundary. We can add and subtract mentally in different ways:

Counting on or back to add and subtract

$$243 + 300 = 246$$

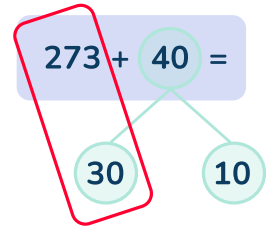


$$243 - 70 = 173$$

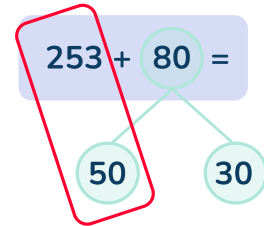


Partitioning

$$273 + 40 = 233$$



$$253 - 80 = 173$$



Adjusting

$$253 + 90 =$$

$253 + 100 = 353$, but we've added 10 more than we need to so we need to subtract 10

$$353 - 10 = 343$$

$$253 - 90 =$$

$253 - 100 = 153$, but we've subtracted 10 more than we need to so we need to add 10

$$153 + 10 = 163$$

Estimate answers

We can use estimation to work out what the approximate answer to a calculation should be.

$$397 + 419$$

397 is close to 400

419 is close to 420

$$400 + 420 = 820$$

We can then use this estimation to check if our answer is sensible.

$$397 + 419 = 816$$

Column addition

Ensure place values are lined up correctly and that you work from the right (the smallest place value) to the left (the biggest place value).

No regrouping

	2	7	3
+	4	1	2
	6	8	5

Regrouping

	2	7	3
+	4	7	2
	7	4	5
	1		

	2	7	3
+	4	7	8
	7	5	1
	1	1	

Written method – column subtraction

Ensure place values are lined up correctly and that you work from right to left, subtracting from the top each time.

No exchanging

	5	7	6
-	1	4	1
	4	3	5

Exchanging

	5	⁶ 7	¹ 6
-	1	4	9
	4	2	7

	⁴ 5	¹⁶ 7	¹ 6
-	1	8	9
	3	8	7

Inverse operations

Inverse means the opposite effect. Addition is the inverse of subtraction and subtraction is the inverse of addition.

To solve $568 + ? = 164$, we can use subtraction.

	5	6	8
-	1	6	4
	4	0	4

To solve $? - 404 = 164$, we can use addition.

	4	0	4
+	1	6	4
	5	6	8

We can show these facts in a bar model.

