




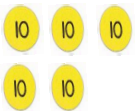


**Addition and Subtraction: Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.**

|                |   |
|----------------|---|
| Learning focus | <ul style="list-style-type: none"> <li>☐ Align numbers carefully in the correct place value columns.</li> <li>☐ Understand the value of each digit based on its column position</li> <li>☐ Explain how a method of calculation works and demonstrate an understanding of the place value that underpins written methods.</li> </ul> |
|----------------|---|

Greater Depth Challenge:

Complete the table below:

| TH  | H   | T   | U   |
|---|---|---|---|
|  |  |  |  |
|  |   |  |   |
| 4   | 5   | 7   | 2   |

Greater Depth Challenge:

Do you agree with how Amy calculated 5632- 431?

$$\begin{array}{r}
 5632 \\
 - 431 \\
 \hline
 1320
 \end{array}$$

What is the correct answer?

Greater Depth Challenge:



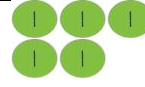

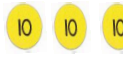

Find and explain the error in this calculation:

$$\begin{array}{r}
 254 \\
 + 1234 \\
 \hline
 3774
 \end{array}$$

What is the correct answer?

Greater Depth Challenge:

Complete the table below:

|   | TH  | H   | T   | U   |
|---|---|---|---|---|
| - |  |  |   |  |
| = |  |   |  |  |
|   | 1   | 8   | 2   | 3   |

Learning focus Add numbers up to four digits accurately using a formal written columnar method.

Greater Depth Challenge:

What advice would you give to someone on how to fill in the missing boxes?

$$\begin{array}{r}
 5 \square 2 8 \\
 + 2 6 4 \square \\
 \hline
 \square 0 \square 3
 \end{array}$$

Greater Depth Challenge:

Write three calculations where you would use the formal written method and write three where you would use a mental calculation.

Explain your reasoning.

Greater Depth Challenge:

Spot the mistake:

$$\begin{array}{r}
 4283 \\
 + 2639 \\
 \hline
 6812
 \end{array}$$

Explain how this could be corrected.

Greater Depth Challenge:

All of the digits to fill in this calculation are either a **4** or a **7**.

Can you work out each digit?

$$\begin{array}{r}
 \square\square\square\square \\
 + \\
 \square\square\square\square \\
 \hline
 9521
 \end{array}$$

Can there be more than one solution?

Learning focus Subtract numbers up to four digits accurately using a formal written columnar method.

Greater Depth Challenge:

Can you find and explain the error in this calculation?

$$\begin{array}{r} 3673 \\ - 1385 \\ \hline 2312 \end{array}$$

How do you think the mistake was made?

Greater Depth Challenge:

A zoo buys **8000 bananas** at the start of the week to be used as treats for the elephants.

On Monday the elephants **eat 412 of the bananas.**

On Tuesday they **eat 635 bananas.**

On Wednesday they **eat twice as many bananas as Monday.**

How many bananas were left for the rest of the week?  
*What method did you use? Was it the most efficient way?*

Greater Depth Challenge:

Can you explain how you would fill in the empty boxes?

$$\begin{array}{r} \square \quad 2 \quad 1 \quad 7 \\ - \quad 3 \quad \square \quad 6 \quad \square \\ \hline 2 \quad 2 \quad \square \quad 2 \end{array}$$

Greater Depth Challenge:

Tom wanted to work out **2008 - 1897.**

Show three different ways he could work it out.  
Which is the most efficient? Why?

Learning focus

Add two three-digit sums of money or measures, such as £4.21 and £3.87

Greater Depth Challenge:

Gemma went to the shop wanting to buy a new pencil case for £6.17 and a notebook costing £8.99.

In her purse she had a £10 note and a £5 note.

Did she have enough money?

If not, how much was she short by?

How did you calculate this? What is the most efficient way?

Greater Depth Challenge:

Katie and Tom are going on holiday.

Katie has a suitcase weighing 2.45kg and she places 13.6kg of clothes into it.

Tom's suitcase weighs 3.77kg and he places 11.2kg of clothes in it.

Who has the heaviest amount of luggage? Explain your answer.

Greater Depth Challenge:

Emma has 10m of material to make two pairs of curtains.


If one pair uses 5.43m and the other uses 4.74m, will she have enough material?

Prove it!

Greater Depth Challenge:

Find the missing digits:

$$\begin{array}{r}
 \text{£ } 6. \blacksquare 7 \\
 + \quad \text{£ } \blacksquare . 14 \\
 \hline
 \text{£ } 9. 0 \blacksquare
 \end{array}$$

Learning focus  Subtract two three-digit sums of money or measures, such as 7.50 m and 2.84 m

Greater Depth Challenge:

Rob went to the sweet shop with his pocket filled with coins.

*He bought a pick and mix costing £2.49 and a lolly costing 87p.*

*At the till, he handed over all of the money in his pocket, which came to £4.54.*

How much change did the shopkeeper hand back to him?

Greater Depth Challenge:

Sam has a parcel weighing between **3.51Kg and 3.99Kg**.

When he puts his parcel on the same scale as Tom it weighs **10Kg** in total.

What is the most Tom's parcel can weigh and what is the least?

Greater Depth Challenge:

Fill in the problems below with either =, < or >

500m - 124m

450m - 74m

320l - 256l

310l - 236l

Greater Depth Challenge:

Tom has £3.45 in his wallet and Tina has £7.54 in her purse.

Tina wants to work out how much more money she has than Tom.

**“More sounds like addition so to find out how much more money I have I'll just do £7.54 + £3.45.”**

Is she correct? Explain how you know.

**Addition and Subtraction: Estimate and use inverse operations to check answers to a calculation.**

Learning focus

Estimate answers by rounding and then finding and comparing the exact answer, e.g., recognise that the answer to  $367 + 185$  is less than  $400 + 200$ .

Greater Depth Challenge:

Which of the following would you choose to estimate the answer to  **$581+243$** ?

Circle one:

- **$580+240$**
- **$600+200$**
- **$580+250$**
- **$600+240$**

Explain your answer.

Greater Depth Challenge:

Jack estimates that  **$5324-2543=2000$**

Do you agree?

Explain your answer.

Greater Depth Challenge:

Fill in the problems below with either =, < or >

$500 + 300$    $437 + 354$

$671 - 318$    $700 - 400$

Greater Depth Challenge:

*Tom says, "The answer to  $349 + 498$  is near 900."*

*Tina says, "The answer is near 750."*

Who is closer with their estimate?

Explain how you know.

Learning focus

- ☐ Check subtraction calculations using the inverse operation of addition.
- ☐ Check addition calculations using the inverse operation of subtraction.

Greater Depth Challenge:

What could the missing bars be?

|      |     |  |     |  |     |
|------|-----|--|-----|--|-----|
| 1000 |     |  |     |  |     |
|      | 356 |  | 342 |  | 219 |

How many different options could there be?

Greater Depth Challenge:

Sam is working out  $45 + 32 - 27$  into her calculator.

By accident she types in  $45 - 32 - 27$ . What does she need to add to correct her mistake?

Greater Depth Challenge:

Edward thinks of a number.

**He adds 15, multiplies it by 2 and then subtracts 8.**

How could Edward get back to his original number?

**Edward then reveals that the answer is 44.**

What was his original number?

Greater Depth Challenge:

Amy says that she can use addition to check this calculation is correct- is she right?

$$\begin{array}{r}
 3256 \\
 + \quad \underline{5427} \\
 \hline
 8683
 \end{array}$$

**Addition and Subtraction: Solve addition and subtraction two- step problems in contexts, deciding which operations and methods to use and why.**

|                |   |
|----------------|---|
| Learning focus | <ul style="list-style-type: none"> <li>🔍 Solve place value problems.</li> <li>🔍 Solve two-step word problems for quantities, amounts and measures</li> <li>🔍 Solve puzzles and undertake investigations involving addition and subtraction</li> </ul> |
|----------------|---|

Greater Depth Challenge:

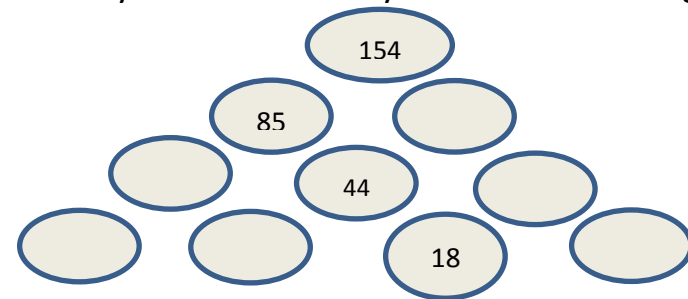
Each of the digits in the addition problem below is different.  
Can you fill in the digits, using only **0-9** once?

$$\begin{array}{r}
 A \ B \ C \\
 + \ D \ E \ F \\
 \hline
 G \ H \ I \ J
 \end{array}$$

Can you find more than one way?

Greater Depth Challenge:


The numbers in the tree puzzle below are the total of the two numbers directly beneath it. Can you fill in the missing spaces?



Greater Depth Challenge:

Tom, Tina and Sam go out for lunch. They all want eat something different and they only have £10 to spend.

- What combinations can they buy?
- Which is the most expensive?
- Which is the cheapest?

| Lunch Menu  |       |
|---|-------|
|  | £3.98 |
|  | £2.89 |
|  | £2.49 |
|  | £3.30 |

Greater Depth Challenge:

$$\square \square \square + \square \square \square =$$

Use the digits 1-9 to make:

- a) the largest odd total you can.
- b) the smallest even total you can.
- c) the number closest to 5000 you can.