

Vocabulary

ADDITION

add
plus
and
total



increase
more
sum
together

SUBTRACTION


take away
minus
less
reduce
remain



take from
fewer
take
difference
how many more

Videos to further explain each of the methods used in the following lessons can be found at:

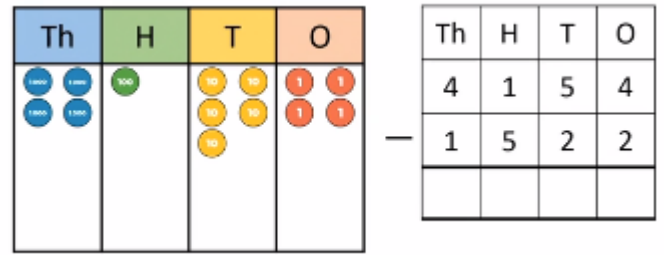
<https://whiterosemaths.com/homelearning/year-5/week-4/>

| | |
|---|---|
| Date | |
| Subject/s | Maths |
| Learning Objective  | To recall and use multiplication and division facts |

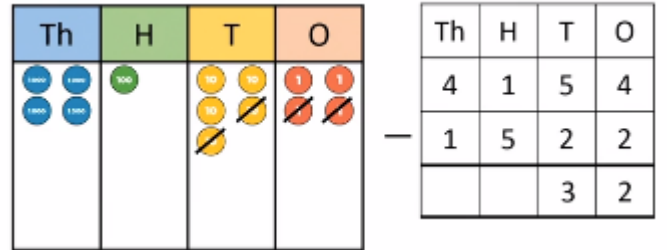
| | | | | | | | | |
|----|---------|--|----|---------|--|----|---------|--|
| 1 | 9 X 7 | | 30 | 6 x 9 | | 59 | 9 X 4 | |
| 2 | 8 x 4 | | 31 | 12 x 3 | | 60 | 7 x 6 | |
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| 23 | 6 x 12 | | 52 | 10 x 12 | | 81 | 11 x 0 | |
| 24 | 5 x 7 | | 53 | 8 x 11 | | 82 | 2 x 12 | |
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| 27 | 5 x 4 | | 56 | 5 x 10 | | 85 | 7 x 11 | |
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Teacher Led

Here you can see a column subtraction shown alongside place value counters.



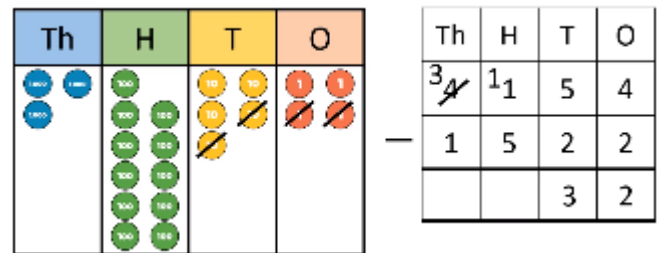
Remember to start from the ones. You can see it recorded in the column method and the place value counters crossed out to show the subtractions of the ones and the tens.



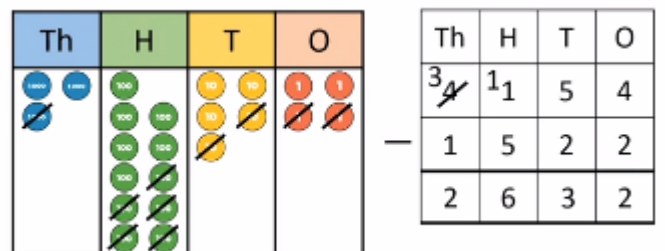
Now look at the hundreds column—it is showing one hundred subtract five hundred. We can't do this, so we need to exchange.

We can exchange one thousand for ten hundreds because $1 \text{ thousand} = 10 \text{ hundreds}$.

On the column method, this is shown by changing 4 thousands to 3 thousands and exchanging this on to show 11 hundreds.



Now we can complete the subtraction.



It is important to remember that

1 ten = ten ones

1 hundred = 10 tens

1 thousand = 10 hundreds.

As we move to the left, the digits get ten times bigger.

Fluency

Use the squared paper on the next pages to work out these:

$$\begin{array}{r} 1 \quad 7894 \\ - 3918 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 2 \quad 7425 \\ - 6773 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 3 \quad 9882 \\ - 6443 \\ \hline \\ \hline \end{array}$$

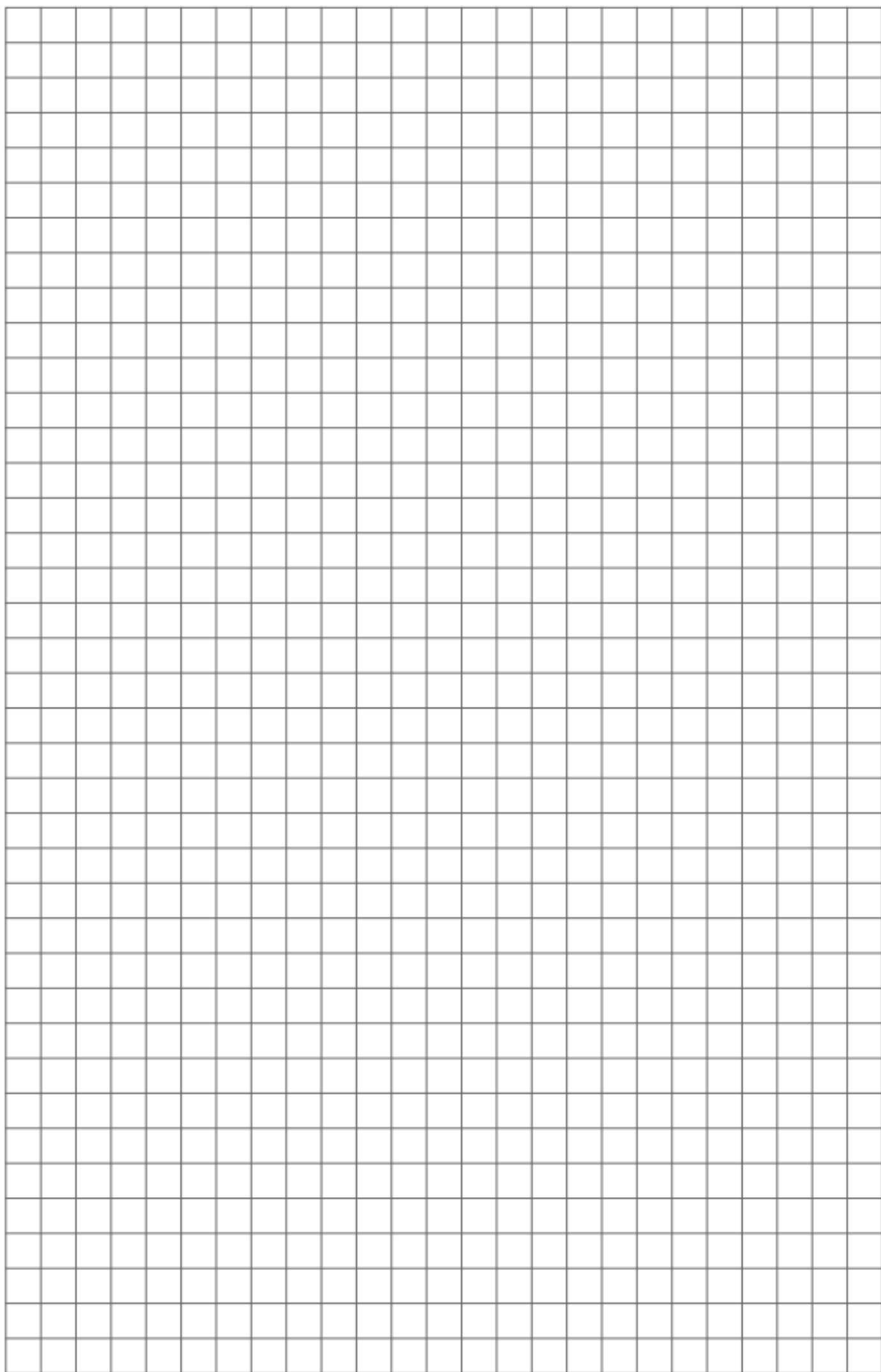
$$\begin{array}{r} 4 \quad 6746 \\ - 5816 \\ \hline \\ \hline \end{array}$$

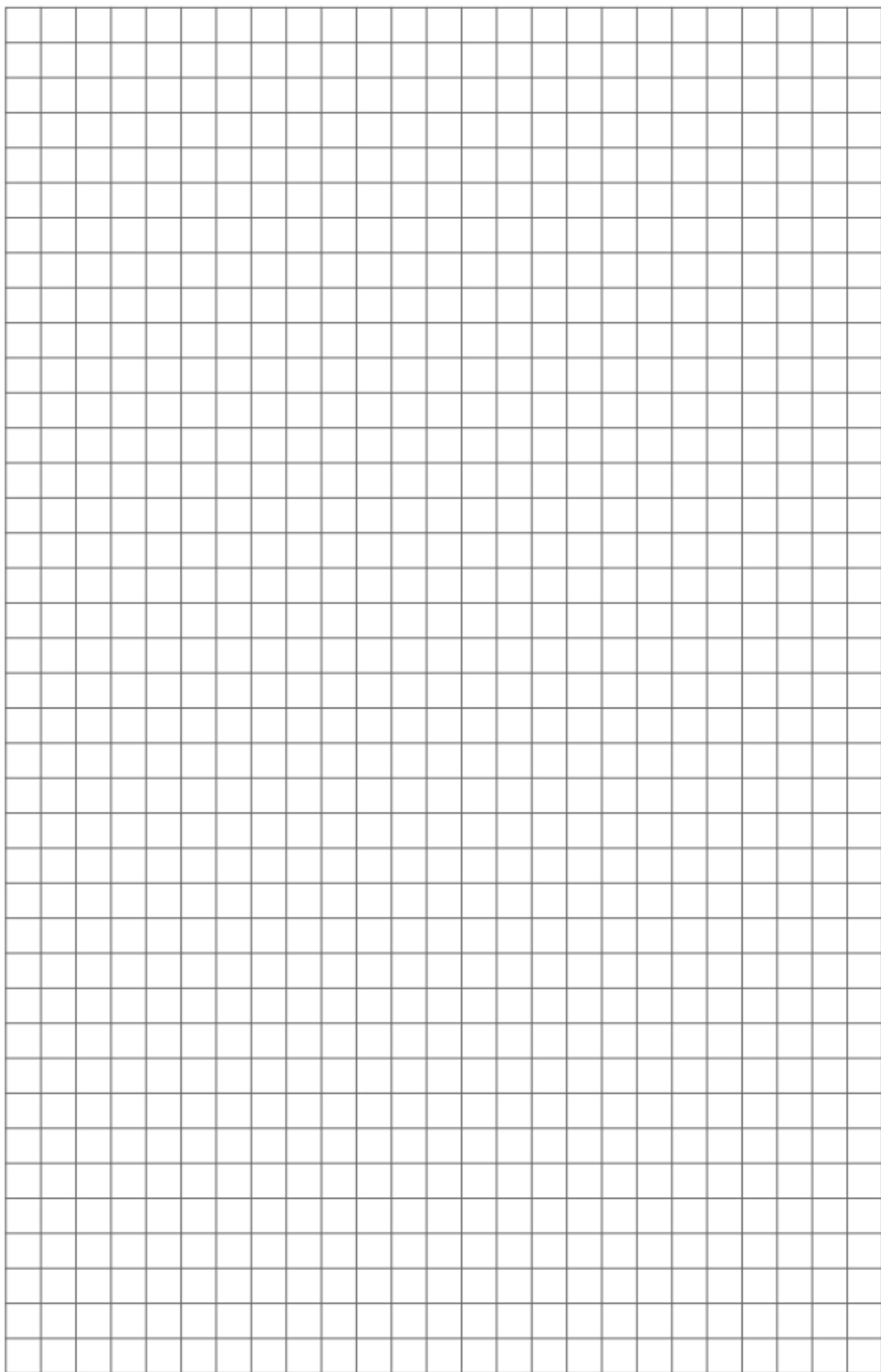
$$\begin{array}{r} 5 \quad 6873 \\ - 5175 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 6 \quad 7043 \\ - 5878 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 7 \quad 7861 \\ - 7200 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 8 \quad 9803 \\ - 1985 \\ \hline \\ \hline \end{array}$$





Fluency—answers

| question | |
|-----------|------|
| | |
| 1 | 3976 |
| 2 | 652 |
| 3 | 3439 |
| 4 | 930 |
| 5 | 1698 |
| 6 | 1165 |
| 7 | 661 |
| 8 | 7818 |
| 9 | 2018 |
| 10 | 4272 |
| 11 | 1190 |
| 12 | 379 |

Problem Solving and Reasoning

Use it!



There were 2,114 visitors to the museum on Saturday.
650 more people visited the museum on Saturday than on Sunday.



Altogether how many people visited the museum over the two days?

What do you need to do first to solve this problem?

Use it!



Find the missing numbers that could go into the spaces.

Give reasons for your answers.

$$\underline{\quad} - 1,345 = 4\underline{\quad}6$$

What is the greatest number that could go in the first space?

What is the smallest?

How many possible answers could you have?

What is the pattern between the numbers?

What method did you use?

Problem Solving and Reasoning - Answers

Use it!

First you need to find the number of visitors on Sunday which is

$$2,114 - 650 = 1,464$$

Then you need to add Saturday's visitors to that number to solve the problem.

$$1,464 + 2,114 = 3,578$$

Possible answers:

1,751 and 0
1,761 and 10
1,771 and 20
1,781 and 30
1,791 and 40
1,801 and 50
1,811 and 60
1,821 and 70
1,831 and 80
1,841 and 90
1,841 is the greatest
1,751 is the smallest.

There are 10 possible answers. Both numbers increase by 10


Further Challenge

Rank by difficulty





2001 - 48

130 - 48




1999 - 48

| | |
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| | | | |
|---|--|---|---|
| Date | | | |
| Subject/s | Maths | | |
| Learning Objective  | To subtract numbers with four or more digits continued | | |
| | | SA  | TA  |
| Success Criteria  | I can use place value columns to set out calculation | | |
| | I understand when to exchange | | |
| | I can use number bonds to subtract efficiently | | |
| Support | Independent | Adult Support () | Group Work |

| Th | H | T | O |
|----|---|---|---|
| 3 | 4 | 0 | 2 |
| 1 | 3 | 0 | 9 |
| | | | |





| Th | H | T | O |
|---|---|---|---|
|  |  | |  |
| | | | |

Teacher Led

Look at this example.





In the ones we can see 2-9. We can't do this, so we need to exchange. However, there is nothing in the tens column to exchange with. What should we do?

| Th | H | T | O |
|----|---------------------------|---------------------------|---|
| 3 | 4 ³ | 0 ⁹ | 2 |
| 1 | 3 | 0 | 9 |
| | | | |

| Th | H | T | O |
|--|--|--|--|
|  |  |  |  |
| | | | |





First we need to exchange 1 hundred for 10 tens. You can see this on the column method and the place value counters.

| Th | H | T | O |
|----|---------------------------|---------------------------|----------------------------|
| 3 | 3 ³ | 9 ⁹ | 2 ¹² |
| 1 | 3 | 0 | 9 |
| | | | |

| Th | H | T | O |
|---|---|---|---|
|  |  |  |  |
| | | | |

Now we can exchange 1 ten for 10 ones.

| Th | H | T | O |
|----|---------------------------|---------------------------|----------------------------|
| 3 | 3 ³ | 9 ⁹ | 2 ¹² |
| 1 | 3 | 0 | 9 |
| 2 | 0 | 9 | 3 |

| Th | H | T | O |
|---|---|---|---|
|  |  |  |  |
| | | | |

Now we can complete the subtraction

- 1) Complete these subtraction calculations.
You may want to use place value counters to help you.



a)

| | | | | |
|---|---|---|---|---|
| | 5 | 1 | 3 | 4 |
| - | 1 | 5 | 3 | 2 |
| | | | | |

b)

| | | | | |
|---|---|---|---|---|
| | 9 | 0 | 5 | 4 |
| - | 5 | 6 | 7 | 1 |
| | | | | |

c)

| | | | | | |
|---|---|---|---|---|---|
| | 3 | 4 | 0 | 2 | 3 |
| - | | 8 | 7 | 1 | 8 |
| | | | | | |

d) $52\,064 - 25\,934$

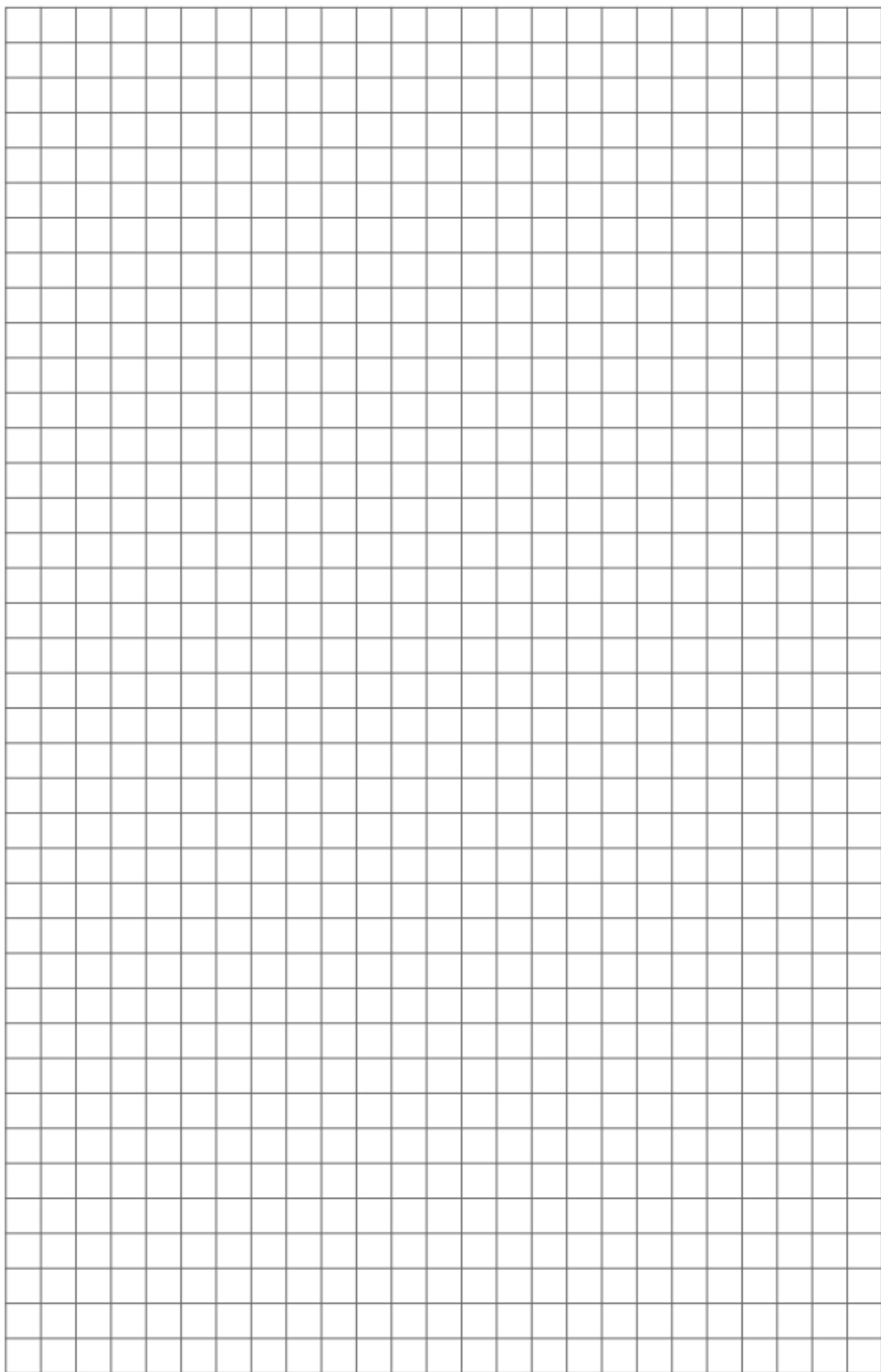
e) $86\,807 - 32\,653$

- 2) Here are the flight times, in seconds, for each flying team.



| Sea Beast | Number One | High Fliers | The Conjurors | Fantastic French |
|-----------|------------|-------------|---------------|------------------|
| 82 507 | 80 198 | 75 259 | 72 043 | 78 360 |

- a) Which teams have a time difference of 3101?
- b) Which two teams have the greatest time difference? How about the smallest time difference? Prove it!



Fluency—Answers



1) a) 3602

b) 3383

c) 25 305

d) 26 130

e) 54 154

2) a) *High Fliers and Fantastic French*

b) *Sea Beast and The Conjurers (10 464). Number One and Fantastic French (1838). Look for children who explain their reasoning about number selection, e.g. taking the largest and smallest numbers to find the greatest difference and the two closest numbers for the smallest difference, rather than trying every combination of numbers to find the correct answer.*

Problem Solving and Reasoning

Rana has been practising the column method but she has made some mistakes.

Can you identify all the mistakes and explain what she has done wrong?

Complete the calculation yourself to show the correct workings.

a)

| | | | | | |
|---|---|---------------------------|---|---|---|
| | 3 | 1 ¹ | 5 | 6 | 1 |
| - | | 1 | 6 | 3 | 5 |
| | 3 | 0 | 9 | 3 | 4 |

b)

| | | | | | |
|---|---|---|---|---|---|
| | 8 | 4 | 2 | 8 | 4 |
| - | 5 | 2 | 6 | 5 | 3 |
| | 3 | 2 | 6 | 3 | 1 |

Is this statement always, sometimes or never true?
Explain your thinking.

'If you find the difference between two consecutive numbers, the answer will be an even number.'



Use it!



| | | | | |
|---|----|---|---|---|
| | Th | H | T | O |
| | ? | ? | ? | ? |
| + | 4 | 6 | 7 | 8 |
| | 7 | 4 | 3 | 1 |

Handwriting practice grid consisting of 20 horizontal lines and 10 vertical lines, forming a grid for writing answers.

Problem Solving and Reasoning Answers

| | | | | | |
|---|---|--------------|----------------|---|---|
| | 3 | 1 | ¹ 5 | 6 | 1 |
| - | | 1 | 6 | 3 | 5 |
| | 3 | 0 | 9 | 3 | 4 |

Rana has done 5 - 1 rather than doing 1 - 5 and exchanging.

The correct answer is 30 926.

| | | | | | |
|---|---|---|---|---|---|
| | 8 | 4 | 2 | 8 | 4 |
| - | 5 | 2 | 6 | 5 | 3 |
| | 3 | 2 | 6 | 3 | 1 |

Rana has not recorded the exchange of taking 1 thousand from 4 thousands to create 10 hundreds, which would leave 3 thousands.

The correct answer is 31 631.

Never. In a pair of consecutive numbers, one number will be odd and the other even.

odd - even = odd

even - odd = odd

2753

Further Challenge

Investigate

$$\square\square - \square\square = \square\square$$

Stage 1: complete using digits 0-9

Stage 2: complete with the units digit of the first number smaller than the units digit of the second number