

Year 5  
Maths  
Booklet 1  
Addition and  
Subtraction

# 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

$1) 7 \times 2 = \underline{\quad}$

$2) 3 \times 8 = \underline{\quad}$

$3) 4 \times 6 = \underline{\quad}$

$4) 2 \times 9 = \underline{\quad}$

$5) 6 \times 4 = \underline{\quad}$

$6) 8 \times 4 = \underline{\quad}$

$7) 7 \times 5 = \underline{\quad}$

$8) 9 \times 10 = \underline{\quad}$

$9) 6 \times 6 = \underline{\quad}$

$1) 6 \times \underline{\quad} = 18$

$2) 8 \times \underline{\quad} = 16$

$3) \underline{\quad} \times 7 = 7$

$4) \underline{\quad} \times 9 = 45$

$5) 7 \times \underline{\quad} = 21$

$6) \underline{\quad} \times 6 = 36$

$7) \underline{\quad} \times 8 = 40$

$8) 9 \times \underline{\quad} = 90$

$9) \underline{\quad} \times 8 = 32$

$10) \underline{\quad} \times 6 = 24$

$11) 7 \times \underline{\quad} = 63$

$12) \underline{\quad} \times 6 = 0$

$13) \underline{\quad} \times 8 = 80$

$14) 9 \times \underline{\quad} = 54$

$15) 6 \times \underline{\quad} = 42$

$16) \underline{\quad} \times 8 = 56$

$17) \underline{\quad} \times 9 = 81$

$18) 6 \times \underline{\quad} = 30$

$19) 8 \times \underline{\quad} = 48$

$20) \underline{\quad} \times 9 = 18$

$21) 8 \times 6 = \underline{\quad}$

$22) 7 \times 9 = \underline{\quad}$

$23) 6 \times 7 = \underline{\quad}$

$24) 8 \times 8 = \underline{\quad}$

$25) 6 \times 3 = \underline{\quad}$

$26) 9 \times 6 = \underline{\quad}$

$27) 7 \times 5 = \underline{\quad}$

$28) 8 \times 9 = \underline{\quad}$

$29) 10 \times 7 = \underline{\quad}$

$21) \underline{\quad} \times 7 = 49$

$22) 8 \times \underline{\quad} = 72$

$23) \underline{\quad} \times 6 = 48$

$24) 9 \times \underline{\quad} = 45$

$25) \underline{\quad} \times 7 = 63$

$26) 6 \times \underline{\quad} = 36$

$27) 8 \times \underline{\quad} = 64$

$28) \underline{\quad} \times 6 = 42$

$29) \underline{\quad} \times 9 = 72$

$30) 7 \times \underline{\quad} = 56$

$31) \underline{\quad} \times 8 = 48$

$32) 6 \times \underline{\quad} = 60$

$33) 9 \times \underline{\quad} = 45$

$34) \underline{\quad} \times 8 = 72$

$35) \underline{\quad} \times 7 = 28$

$36) 9 \times \underline{\quad} = 81$


$37) \underline{\quad} \times 6 = 6$



$38) \underline{\quad} \times 8 = 64$


$39) 7 \times \underline{\quad} = 49$

$40) \underline{\quad} \times 9 = 54$

## Steps to Success

Date	
Subject/s	<u>Maths</u>
Learning Objective 	To add numbers with four or more digits.

SA 	TA 
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Success Criteria 	I can use place value columns to set out calculation		
	I understand when to exchange		
	I can use number bonds to add efficiently		
Support	Independent	Adult Support ( )	Group Work

Pre-task:

Calculate  $7084 + 9118$

Calculate  $87623 + 3789$

Th	H	T	O
5	3	4	5
3	4	5	7

Th	H	T	O
5	3	4	5
3	4	5	7

Th	H	T	O
5	3	4	5
3	4	5	7

Th	H	T	O
5	3	4	5
3	4	5	7

Th	H	T	O
5	3	4	5
3	4	5	7
		2	
		1	

Th	H	T	O
5	3	4	5
3	4	5	7
		2	
		1	

Th	H	T	O
5	3	4	5
3	4	5	7
		2	
		1	

Th	H	T	O
5	3	4	5
3	4	5	7
		2	
		1	

Th	H	T	O
5	3	4	5
3	4	5	7
		0	2
		1	

Th	H	T	O
5	3	4	5
3	4	5	7
		0	2
		1	

Th	H	T	O
5	3	4	5
3	4	5	7
8	8	0	2
		1	

Th	H	T	O
5	3	4	5
3	4	5	7
8	8	0	2
		1	

Here you can see the column method alongside place value counters.

Can you spot which columns we will need to make an exchange from?

First, I can see that the ones column shows  $5 + 7$ . This will make a total greater than 9 so I will need to exchange.

You can see the exchange recorded here—the ones have been written in the ones column and the exchange is written just under the tens column next to it.

Now look at the tens column, you can see, that when I add in the exchange I now have  $4 + 5 + 1 = 10$ , so I will need to exchange again.

You can see it recorded here.

Now I just need to add the remaining columns. They both total less than 9 so no more exchanges are needed.

## Fluency

Complete these on the squared paper on the next page

$$3451 + 5432 = \underline{\hspace{2cm}}$$

$$1763 + 4342 = \underline{\hspace{2cm}}$$

$$1812 + 5231 = \underline{\hspace{2cm}}$$

$$1083 + 2155 = \underline{\hspace{2cm}}$$

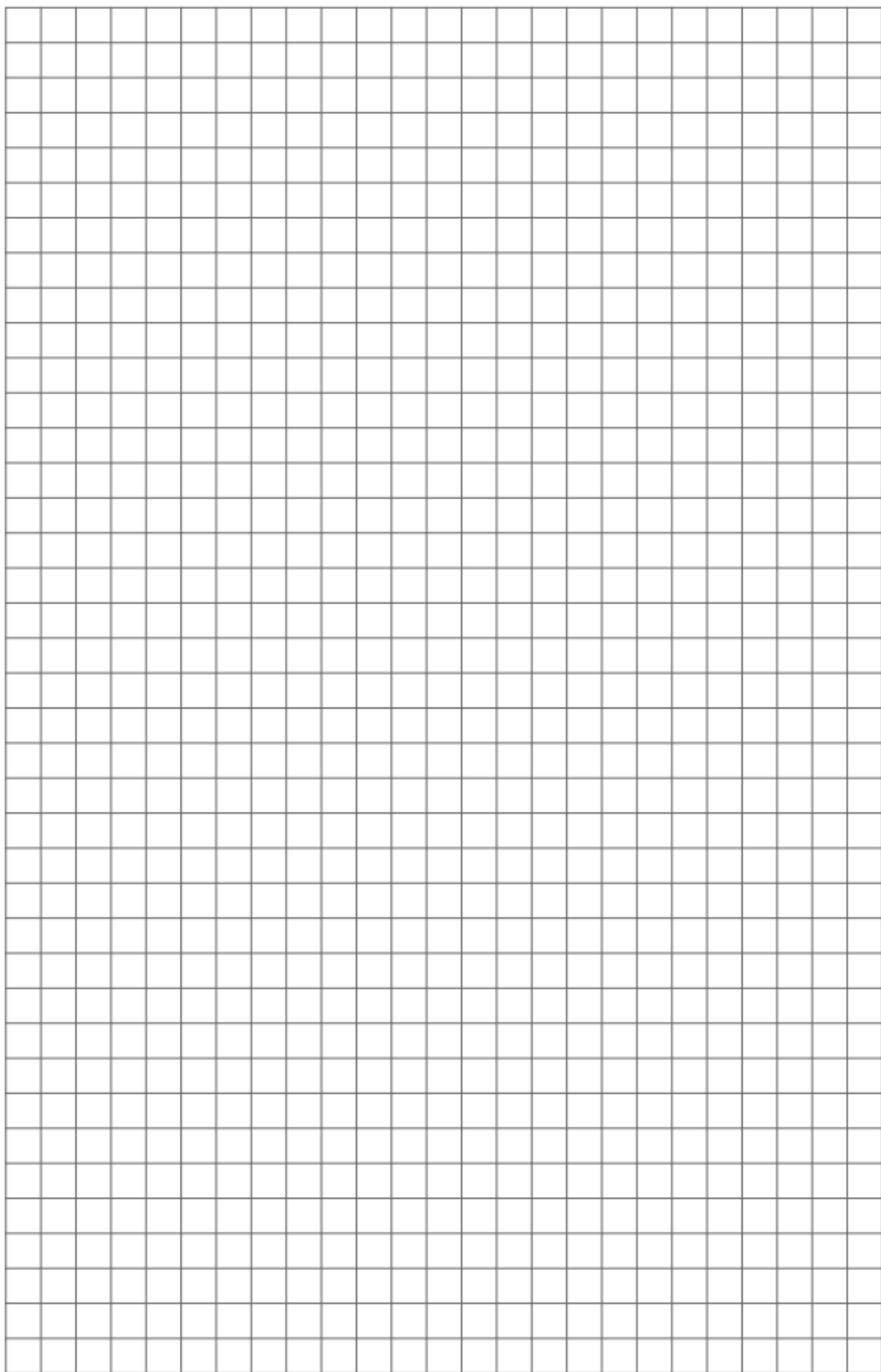
$$3321 + 7238 = \underline{\hspace{2cm}}$$

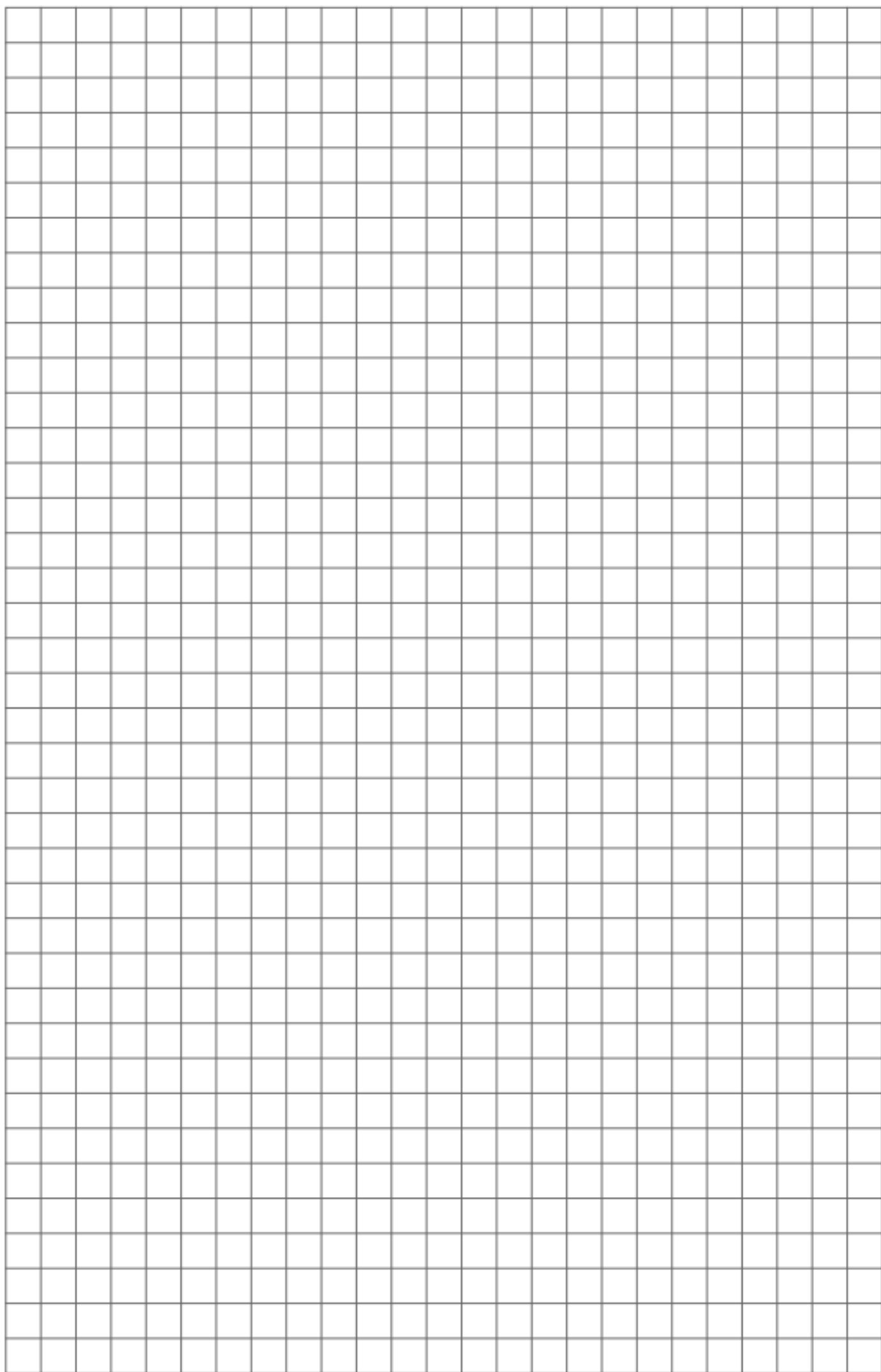
$$7667 + 4715 = \underline{\hspace{2cm}}$$

$$1902 + 4873 = \underline{\hspace{2cm}}$$

$$1099 + 2137 = \underline{\hspace{2cm}}$$

$$2561 + 6273 = \underline{\hspace{2cm}}$$





Fluency answers

$$3451 + 5432 = \underline{\mathbf{8883}}$$

$$1763 + 4342 = \underline{\mathbf{6105}}$$

$$1812 + 5231 = \underline{\mathbf{7043}}$$

$$1083 + 2155 = \underline{\mathbf{3238}}$$

$$3321 + 7238 = \underline{\mathbf{10559}}$$

$$7667 + 4715 = \underline{\mathbf{12382}}$$

$$1902 + 4873 = \underline{\mathbf{6775}}$$

$$1099 + 2137 = \underline{\mathbf{3236}}$$

$$2561 + 6273 = \underline{\mathbf{8834}}$$



## Problem Solving and Reasoning

Five children have been playing a times tables game.  
Here are their scores:



Lottie	Sam	Izzy	Abdul	Ffion
32 357	30 541	34 057	31 647	33 587

- a) Which two children have a combined score of exactly 62 188?
- b) Which two children have a combined score of exactly 65 944?

Use it!



Annie, Mo and Alex are working out the solution to the calculation  $6,374 + 2,823$

### Annie's Strategy

$$6,000 + 2,000 = 8,000$$

$$300 + 800 = 110$$

$$70 + 20 = 90$$

$$4 + 3 = 7$$

$$8,000 + 110 + 90 + 7 = 8,207$$

Explain it!



### Mo's Strategy

	6	3	7	4
+	2	8	2	3
	8	1	9	7

### Alex's Strategy

	6	3	7	4
+	2	8	2	3
				7
			9	0
	1	1	0	0
	8	0	0	0
	9	1	9	7

Who is correct?

Complete:

	Th	H	T	O
	6	?	?	8
+	?	?	8	?
	9	3	2	5

Mo says that there is more than one possible answer for the missing numbers in the hundreds column.

Is he correct?

Explain your answer.

Explain it!



## Problem Solving and Reasoning - Answers

Use it!

Explain it!

a) *Abdul and Sam*

b) *Lottie and Ffion*

Alex is correct with 9,197

Annie has miscalculated  $300 + 800$ , forgetting to exchange a ten hundreds to make a thousand (showing 11 tens instead of 11 hundreds).

Mo has forgotten both to show and to add on the exchanged thousand.

The solution shows the missing numbers for the ones, tens and thousands columns.

$$6\_38 + 2\_87$$

Mo is correct. The missing numbers in the hundreds column must total 1,200 (the additional 100 has been exchanged).

Possible answers include:  
 $6,338 + 2,987$   
 $6,438 + 2,887$


Further Challengee

Rank by difficulty

$$2996 + 1650$$

$$3461 + 2537$$

$$4837 + 2189$$

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

$3 \times 4 =$

$7 \times 8 =$

$9 \div 3 =$

$36 \div 12 =$

$21 \div 7 =$

$8 \times 6 =$

$12 \times 4 =$

$10 \times 8 =$

$4 \times 8 =$

$3 \times 9 =$

$4 \times 7 =$

$3 \times 11 =$

$40 \div 8 =$

$15 \div 3 =$

$27 \div 9 =$

$20 \div 4 =$

$4 \times 11 =$

$48 \div 6 =$

$8 \div 4 =$

$6 \times 8 =$

$5 \times 8 =$

$11 \times 3 =$

$5 \times 8 =$

$80 \div 10 =$

$24 \div 4 =$

$88 \div 11 =$

$24 \div 3 =$

$4 \times 1 =$

$72 \div 8 =$

$8 \times 4 =$

$9 \times 4 =$

$8 \times 5 =$

$10 \times 3 =$

$16 \div 4 =$

$8 \times 11 =$

$6 \times 4 =$

$5 \times 4 =$

$32 \div 8 =$

$6 \div 3 =$

$3 \div 3 =$

$12 \div 3 =$

$3 \times 6 =$

$48 \div 12 =$

$44 \div 11 =$

$4 \times 9 =$

$8 \div 8 =$

$3 \times 4 =$

$7 \times 3 =$

$11 \times 8 =$

$4 \times 3 =$

$0 \times 8 =$

$12 \times 8 =$

$3 \times 12 =$

$48 \div 8 =$

$18 \div 3 =$

$28 \div 4 =$

$24 \div 8 =$

$30 \div 10 =$

$3 \times 3 =$

$56 \div 7 =$

$27 \div 3 =$

$8 \times 9 =$

$64 \div 8 =$

$4 \times 12 =$

$7 \times 4 =$

$10 \times 4 =$

$36 \div 4 =$

$5 \times 3 =$

$36 \div 9 =$

$16 \div 8 =$

$8 \times 8 =$

$56 \div 7 =$

$56 \div 8 =$

$8 \times 3 =$

$21 \div 3 =$

$4 \times 6 =$

$3 \times 0 =$

$72 \div 9 =$

$4 \times 12 =$

$32 \div 4 =$

$12 \div 4 =$

$3 \times 8 =$

$96 \div 12 =$

$12 \times 3 =$

$33 \div 3 =$

$4 \times 4 =$

$24 \div 8 =$

$7 \times 8 =$

$6 \times 3 =$

$9 \times 8 =$

$2 \times 3 =$

$9 \times 3 =$

$40 \div 4 =$

$4 \div 4 =$

$11 \times 4 =$

$21 \div 3 =$


$28 \div 7 =$




$3 \times 7 =$

$32 \div 8 =$

$8 \times 12 =$

Steps to Success

Date	
Subject/s	<b>Maths</b>
Learning Objective 	To add 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		
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Support	Independent	Adult Support ( )	Group Work

**Teacher Led**

Remember that it is important to line the digits up—look at this example, they will get the wrong answer because they've written three hundred and seventeen as thirty-one thousand, seven hundred. It can help to say the numbers out loud.

Here is how it should be set out.

TTh	Th	H	T	O
2	2	0	5	6
+	3	1	7	
<hr/>				

TTh	Th	H	T	O
2	2	0	5	6
+		3	1	7
<hr/>				
2	2	3	7	3

Don't forget to add your exchanges—can you spot the mistake in this one?

TTh	Th	H	T	O
	7	2	4	0
+	2	8	1	9
<hr/>				
	9	0	5	9

Well done—the thousands column should add to 10, so needs to be exchanged.

Here is the correct solution.

TTh	Th	H	T	O
	7	2	4	0
+	2	8	1	9
<hr/>				
1	0	0	5	9
1 1				

Look at this example—you can follow the same method, even if there are more than two numbers to add!

TTh	Th	H	T	O
6	3	0	7	0
	7	6	0	0
+		5	8	2
<hr/>				
7	1	2	5	2
1 1 1				

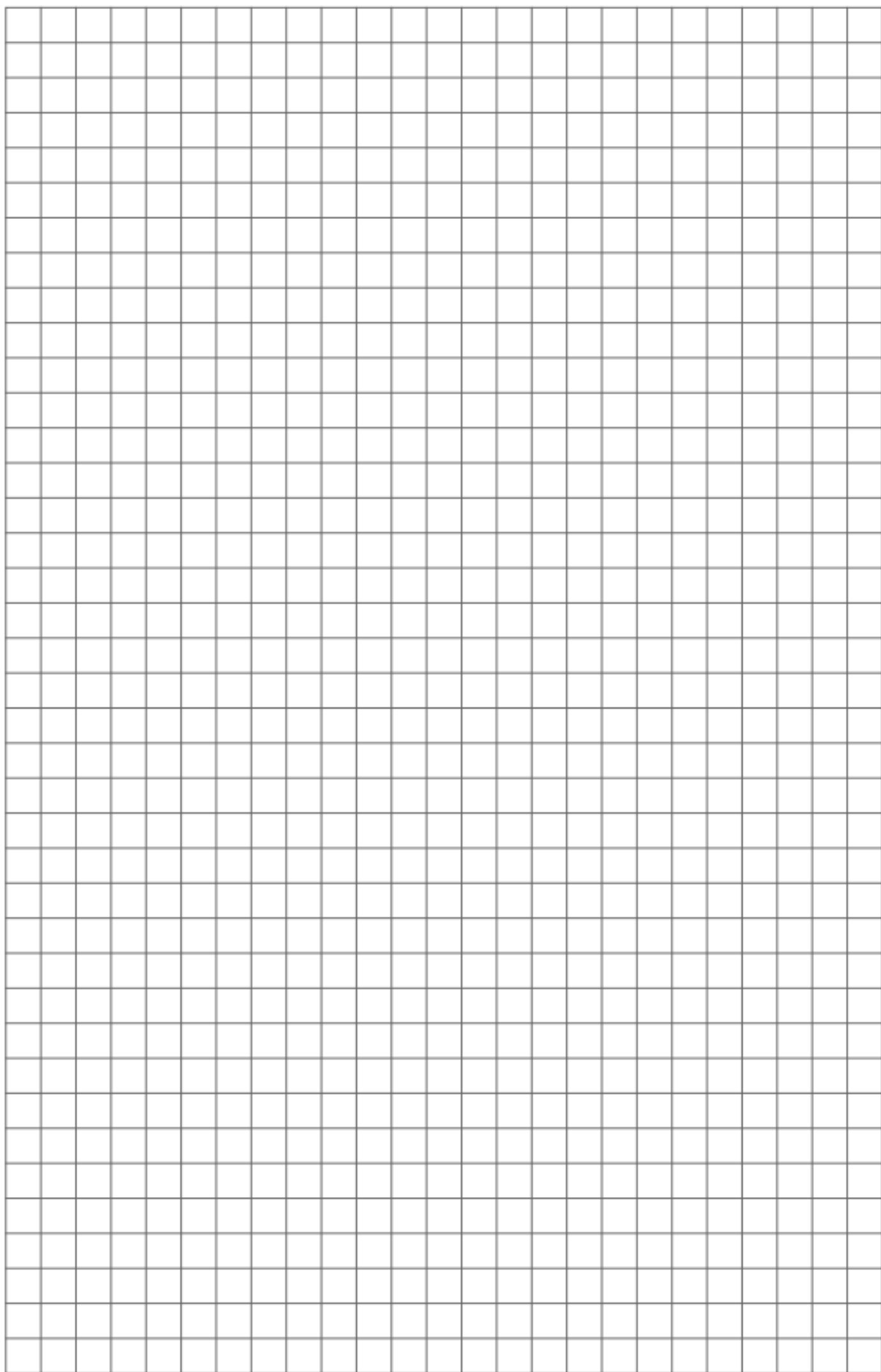
## Fluency

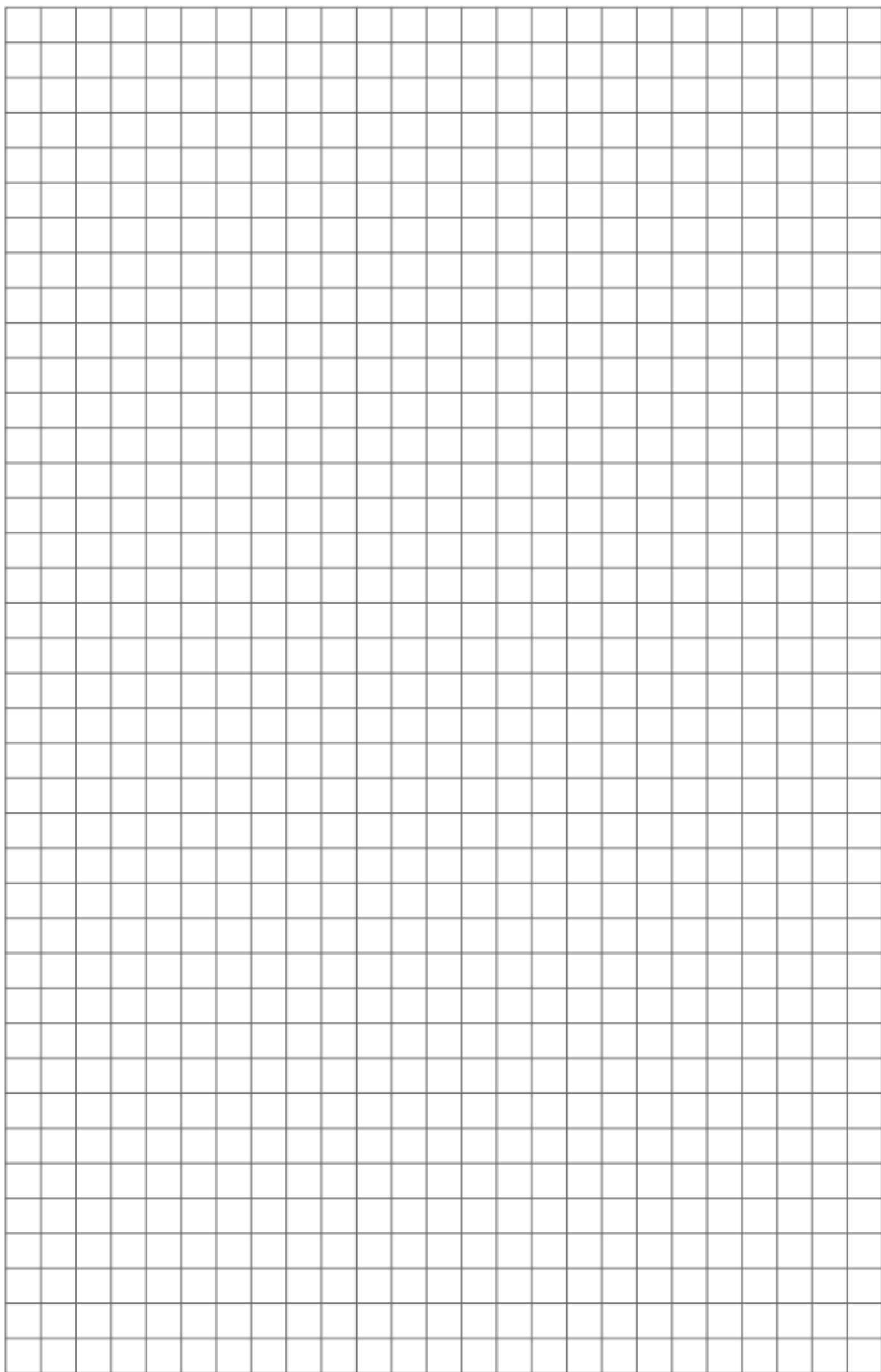
Use the square paper on the next page to work out your answers.

Find the total number of website hits on each day.

Day of the week	am	pm	Total number of hits
Sunday	36,432	57,478	
Monday	19,758	24,642	
Tuesday	21,427	32,846	
Wednesday	16,375	25,342	
Thursday	18,631	26,492	
Friday	17,563	42,869	
Saturday	33,642	58,567	

Now add the total hits for the days from Monday to Friday.







## Fluency—Answers

**Sunday**       $36,432 + 57,478 = 93,910$

**Monday**       $19,758 + 24,642 = 44,400$

**Tuesday**       $21,427 + 32,846 = 54,273$

**Wednesday**       $16,375 + 25,342 = 41,717$

**Thursday**       $18,631 + 26,492 = 45,123$

**Friday**       $17,563 + 42,869 = 60,432$

**Saturday**       $33,642 + 58,567 = 92,209$

Monday to Friday =

$$44400 + 54273 + 41717 + 45123 + 60432 = 245945$$



## Problem Solving and Reasoning - Answers



$$54,937 + 23,592 \\ = 78,529$$



He moved the counter on the thousands row, he moved it from 4,000 to 7,000

### Further Challenge

How many ways?


Complete using digits 1-9. Use the 7 as shown.

$$\square \mathbf{7} \square = \square + \square + \square + \square$$

Level 1: I can find a way

Level 2: I can find different ways

Level 3: I know how many ways there are

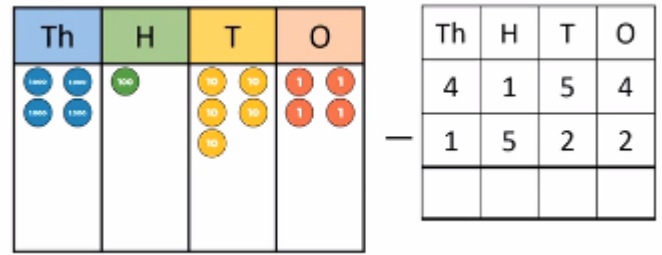
Date	
Subject/s	Maths
Learning Objective 	To recall and use multiplication and division facts

1	9 X 7		30	6 x 9		59	9 X 4	
2	8 x 4		31	12 x 3		60	7 x 6	
3	7 x 10		32	3 x 8		61	4 x 8	
4	9 x 9		33	8 X 8		62	12 X 2	
5	6 x 2		34	6 x 8		63	3 x 6	
6	4 x 7		35	11 x 7		64	4 x 10	
7	9 X 2		36	10 x 1		65	9 x 11	
8	12 x 12		37	10 x 5		66	3 x 12	
9	5 X 9		38	3 x 5		67	3 x 10	
10	7 X 7		39	12 x 11		68	4 X 4	
11	11 x 6		40	6 x 6		69	4 x 9	
12	5 x 11		41	2 x 9		70	4 x 11	
13	4 x 6		42	12 x 7		71	6 x 5	
14	9 x 5		43	11 x 8		72	7 x 2	
15	8 X 12		44	2 x 6		73	5 x 12	
16	10 x 10		45	4 x 5		74	2 x 10	
17	7 x 3		46	4 x 9		75	4 x 12	
18	5 x 8		47	8 x 2		76	7 x 8	
19	3 x 3		48	7 x 9		77	6 x 10	
20	10 x 11		49	12 x 8		78	12 x 6	
21	11 x 2		50	9 X 4		79	7 x 12	
22	2 x 7		51	5 X 5		80	2 X 2	
23	6 x 12		52	10 x 12		81	11 x 0	
24	5 x 7		53	8 x 11		82	2 x 12	
25	10 x 6		54	4 x 3		83	2 X 4	
26	9 x 12		55	2 x 5		84	8 x 5	
27	5 x 4		56	5 x 10		85	7 x 11	
28	11 x 11		57	9 x 3		86	9 x 6	
29	7 x 4		58	8 x 10		87	10 x 11	

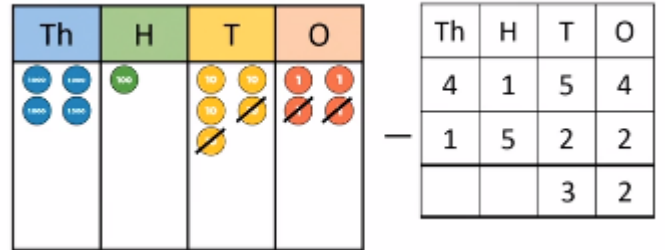


## Teacher Led

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



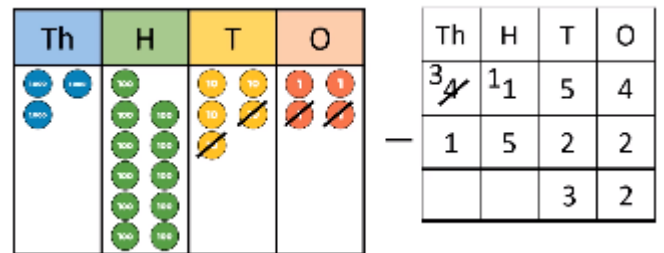
Remember to start from the ones. You can see it recorded in the column method and the place value counters crossed out to show the subtractions of the ones and the tens.



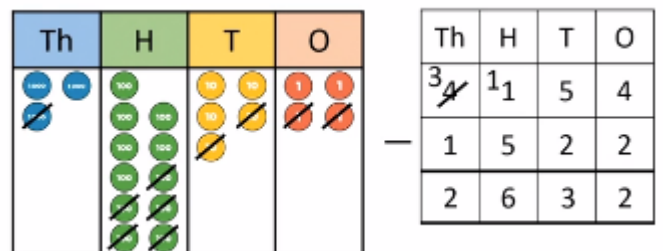
Now look at the hundreds column—it is showing one hundred subtract five hundred. We can't do this, so we need to exchange.

We can exchange one thousand for ten hundreds because 1 thousand = 10 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:

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

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

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

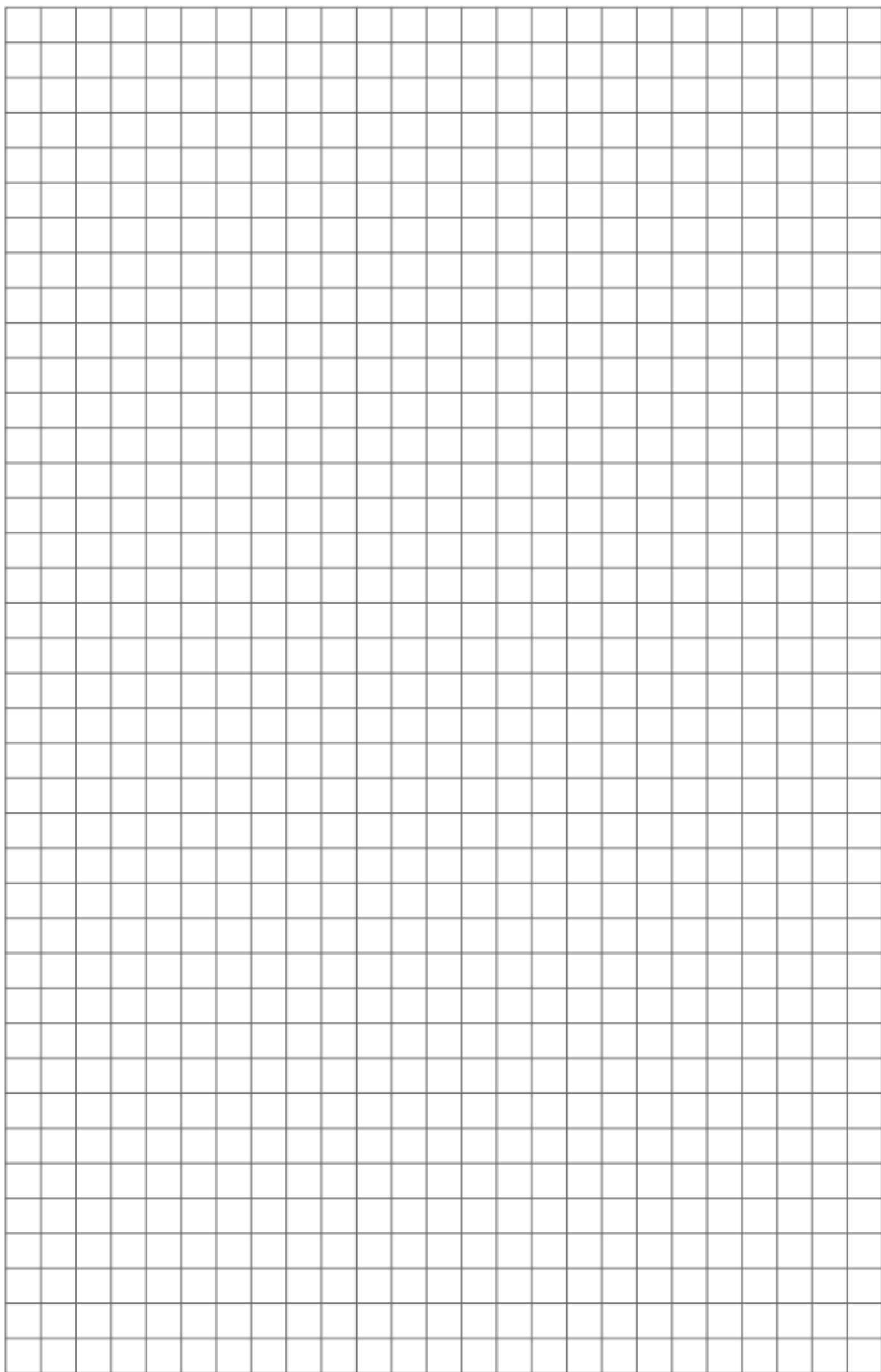
$$\begin{array}{r} 4 \quad 6746 \\ - 5816 \\ \hline \\ \hline \end{array}$$

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

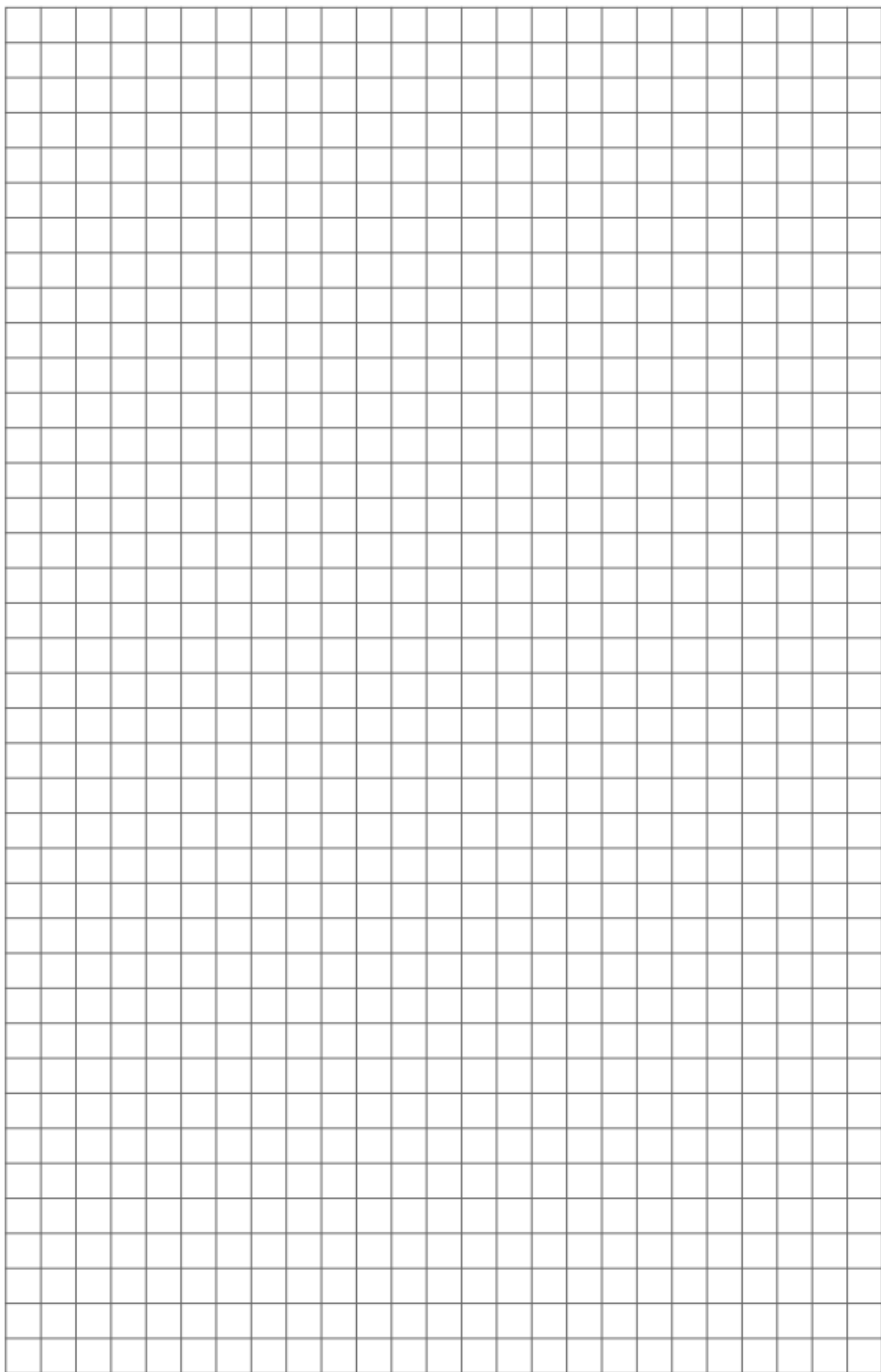
$$\begin{array}{r} 6 \quad 7043 \\ - 5878 \\ \hline \\ \hline \end{array}$$

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

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







## Fluency—answers

question	
<b>1</b>	3976
<b>2</b>	652
<b>3</b>	3439
<b>4</b>	930
<b>5</b>	1698
<b>6</b>	1165
<b>7</b>	661
<b>8</b>	7818
<b>9</b>	2018
<b>10</b>	4272
<b>11</b>	1190
<b>12</b>	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**

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	
3	7 x 10		32	3 x 8		61	4 x 8	
4	9 x 9		33	8 X 8		62	12 X 2	
5	6 x 2		34	6 x 8		63	3 x 6	
6	4 x 7		35	11 x 7		64	4 x 10	
7	9 X 2		36	10 x 1		65	9 x 11	
8	12 x 12		37	10 x 5		66	3 x 12	
9	5 X 9		38	3 x 5		67	3 x 10	
10	7 X 7		39	12 x 11		68	4 X 4	
11	11 x 6		40	6 x 6		69	4 x 9	
12	5 x 11		41	2 x 9		70	4 x 11	
13	4 x 6		42	12 x 7		71	6 x 5	
14	9 x 5		43	11 x 8		72	7 x 2	
15	8 X 12		44	2 x 6		73	5 x 12	
16	10 x 10		45	4 x 5		74	2 x 10	
17	7 x 3		46	4 x 9		75	4 x 12	
18	5 x 8		47	8 x 2		76	7 x 8	
19	3 x 3		48	7 x 9		77	6 x 10	
20	10 x 11		49	12 x 8		78	12 x 6	
21	11 x 2		50	9 X 4		79	7 x 12	
22	2 x 7		51	5 X 5		80	2 X 2	
23	6 x 12		52	10 x 12		81	11 x 0	
24	5 x 7		53	8 x 11		82	2 x 12	
25	10 x 6		54	4 x 3		83	2 X 4	
26	9 x 12		55	2 x 5		84	8 x 5	
27	5 x 4		56	5 x 10		85	7 x 11	
28	11 x 11		57	9 x 3		86	9 x 6	
29	7 x 4		58	8 x 10		87	10 x 11	













Date			
Subject/s	<b>Maths</b>		
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	Th	H	T	O	
3	4	0	2					
1	3	0	9					













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	Th	H	T	O	
3	<del>4</del> <sup>3</sup>	<del>0</del> <sup>9</sup>	2					
1	3	0	9					
								

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	Th	H	T	O	
3	<del>3</del> <sup>3</sup>	<del>9</del> <sup>9</sup>	<del>2</del> <sup>12</sup>					
1	3	0	9					
								

Now we can exchange 1 ten for 10 ones.

Th	H	T	O	Th	H	T	O	
3	<del>3</del> <sup>3</sup>	<del>9</del> <sup>9</sup>	<del>2</del> <sup>12</sup>					
1	3	0	9					
2	0	9	3					

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

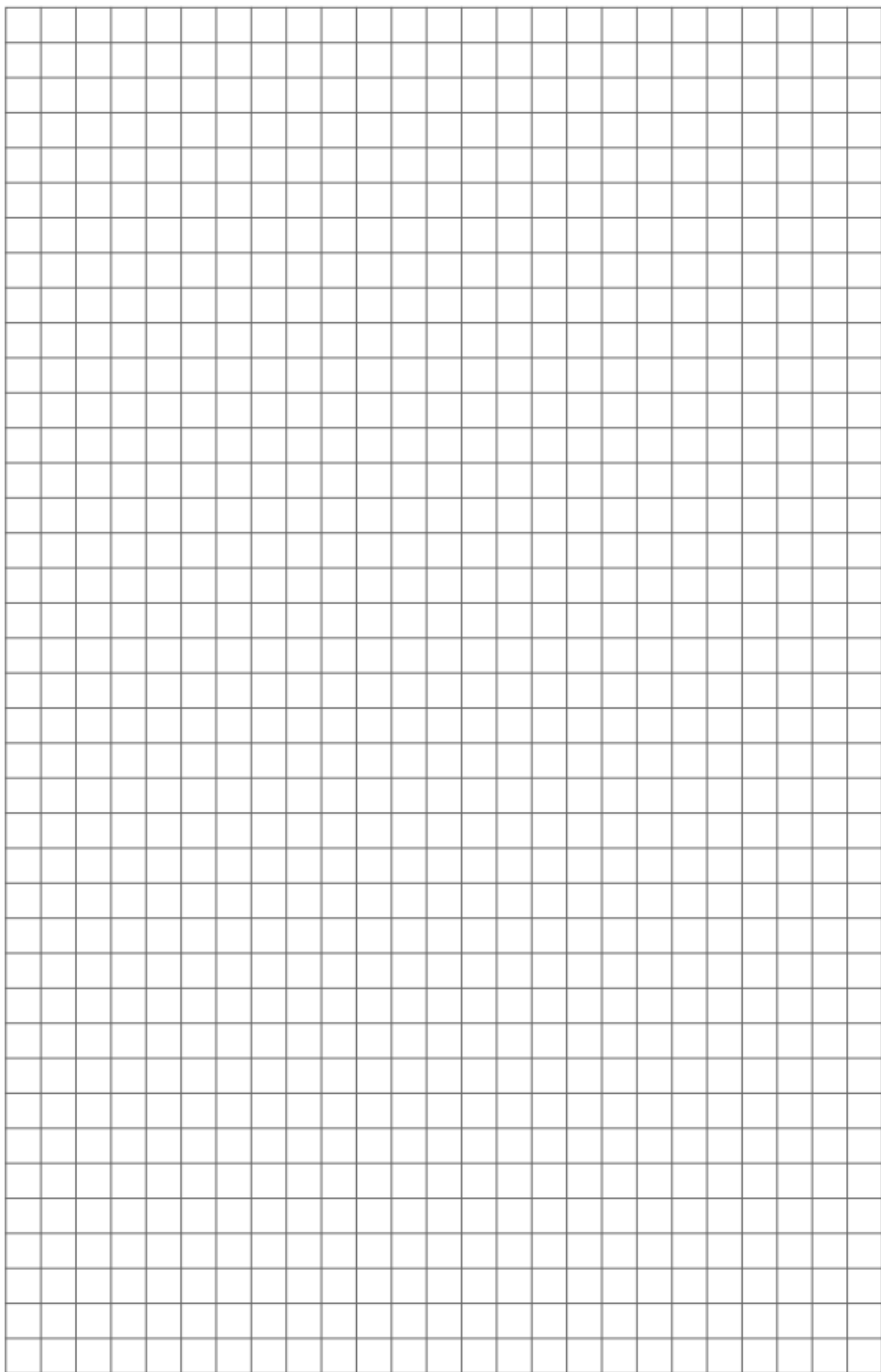
- 2) Here are the flight times, in seconds, for each flying team.



Sea Beast	Number One	High Fliers	The Conjurers	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	<del>1</del>	<sup>1</sup> 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

## Problem Solving and Reasoning Answers

	3	<del>1</del>	<sup>1</sup> 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

$$\begin{array}{|c|c|} \hline \square & \square \\ \hline \end{array} - \begin{array}{|c|c|} \hline \square & \square \\ \hline \end{array} = \begin{array}{|c|c|} \hline \square & \square \\ \hline \end{array}$$





*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*

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

$2 \times 2 =$	$3 \times 3 =$	$4 \times 4 =$	$11 \times 10 =$
$3 \times 5 =$	$6 \times 8 =$	$7 \times 5 =$	$10 \times 2 =$
$4 \times 6 =$	$12 \times 5 =$	$8 \times 12 =$	$3 \times 12 =$
$7 \times 4 =$	$8 \times 6 =$	$10 \times 11 =$	$4 \times 9 =$
$10 \times 10 =$	$10 \times 12 =$	$4 \times 2 =$	$5 \times 7 =$
$9 \times 3 =$	$11 \times 2 =$	$10 \times 3 =$	$9 \times 8 =$
$7 \times 2 =$	$3 \times 9 =$	$6 \times 8 =$	$10 \times 7 =$
$11 \times 3 =$	$4 \times 11 =$	$12 \times 10 =$	$7 \times 8 =$
$10 \times 5 =$	$2 \times 5 =$	$2 \times 11 =$	$4 \times 3 =$
$2 \times 4 =$	$6 \times 10 =$	$8 \times 3 =$	$12 \times 4 =$
$5 \times 6 =$	$10 \times 9 =$	$3 \times 4 =$	$5 \times 8 =$
$7 \times 10 =$	$2 \times 12 =$	$4 \times 5 =$	$8 \times 8 =$
$9 \times 2 =$	$5 \times 3 =$	$7 \times 8 =$	$12 \times 2 =$
$3 \times 11 =$	$9 \times 4 =$	$8 \times 10 =$	$5 \times 4 =$
$10 \times 4 =$	$5 \times 5 =$	$2 \times 8 =$	$9 \times 5 =$
$8 \times 5 =$	$8 \times 8 =$	$8 \times 0 =$	$8 \times 11 =$
$9 \times 8 =$	$9 \times 10 =$	$4 \times 12 =$	$2 \times 10 =$
$4 \times 10 =$	$5 \times 2 =$	$12 \times 8 =$	$4 \times 7 =$
$3 \times 2 =$	$6 \times 3 =$	$3 \times 6 =$	$11 \times 5 =$
$7 \times 3 =$	$6 \times 4 =$	$5 \times 10 =$	$2 \times 3 =$
$4 \times 8 =$	$5 \times 11 =$	$8 \times 2 =$	$8 \times 9 =$
$5 \times 9 =$	$2 \times 6 =$	$3 \times 7 =$	$8 \times 4 =$
$12 \times 8 =$	$3 \times 10 =$	$11 \times 4 =$	$11 \times 8 =$
$2 \times 9 =$	$2 \times 7 =$	$5 \times 12 =$	$12 \times 3 =$
$10 \times 8 =$	$3 \times 8 =$	$0 \times 4 =$	$8 \times 7 =$

## Steps to Success

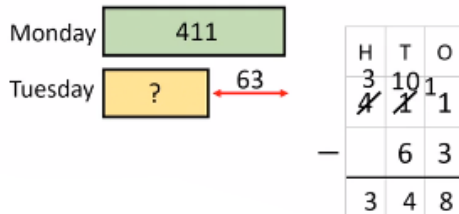
Date			
Subject/s	<u>Maths</u>		
Learning Objective 	To solve multi-step problems involving addition and subtraction		
		SA 	TA 
Success Criteria 	I can use efficient written methods for addition and subtractions		
	I can record calculations in number sentences		
	I can check that I have answered what the question is asking for		
Support	Independent	Adult Support (    )	Group Work
<p>Pre-task:</p> <p>When Annie opened her book, she saw two numbered pages.          The sum of these two pages was 317          What would the next page number be?</p>			

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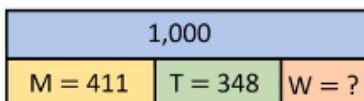
## Teacher Led

On Monday, Richard scores 411 points.  
On Tuesday he scores 63 points fewer than on Monday.

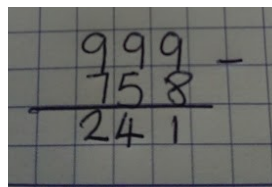
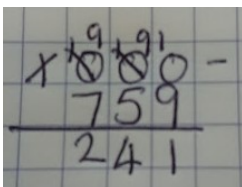
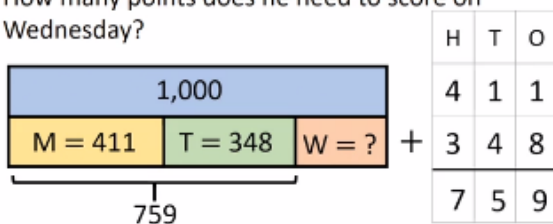
How many points does he score on Tuesday?



On Monday, Richard scores 411 points.  
On Tuesday he scores 63 points fewer than on Monday.  
How many points does he score on Tuesday? **348**  
Richard needs to score 1,000 points by the end of Wednesday.  
How many points does he need to score on Wednesday?



On Monday, Richard scores 411 points.  
On Tuesday he scores 63 points fewer than on Monday.  
How many points does he score on Tuesday? **348**  
Richard needs to score 1,000 points by the end of Wednesday.  
How many points does he need to score on Wednesday?



Here is a word problem.

You can see it here represented as a bar model.

You can see that there is only one step:  $411 - 63 = 348$ . I have used column subtraction to work this out.

Richard scores 348 points on Tuesday.

Now there are some additional steps I need to complete.

Again this is shown with a bar model.

There are 2 more steps needed to solve this problem. Can you work out what they are?

First, I need to add Monday and Tuesday's points together. I have shown this with the bar model then used column method to calculate  $411 + 348 = 759$

Then I will need to subtract this total from 1000.

There are 2 ways to do this.

The first involves lots of exchanging!

In the second method, I've subtracted one from both numbers which means the difference stays the same, but there is no exchanging!

The final answer is that, if Richard wants to score 1000 points by Wednesday, he needs to score another 241.



## Fluency

- 1) Use the bar model to help you find the answers to these questions.

I am up to page 127 in my 'Sweets and Treats' book. I need to read 96 more pages in order to be halfway through my book. How many pages does my book have altogether?

127	96
$\frac{1}{2}$ book -	



$\frac{1}{2}$ book - _____	$\frac{1}{2}$ book - _____
whole book - _____	

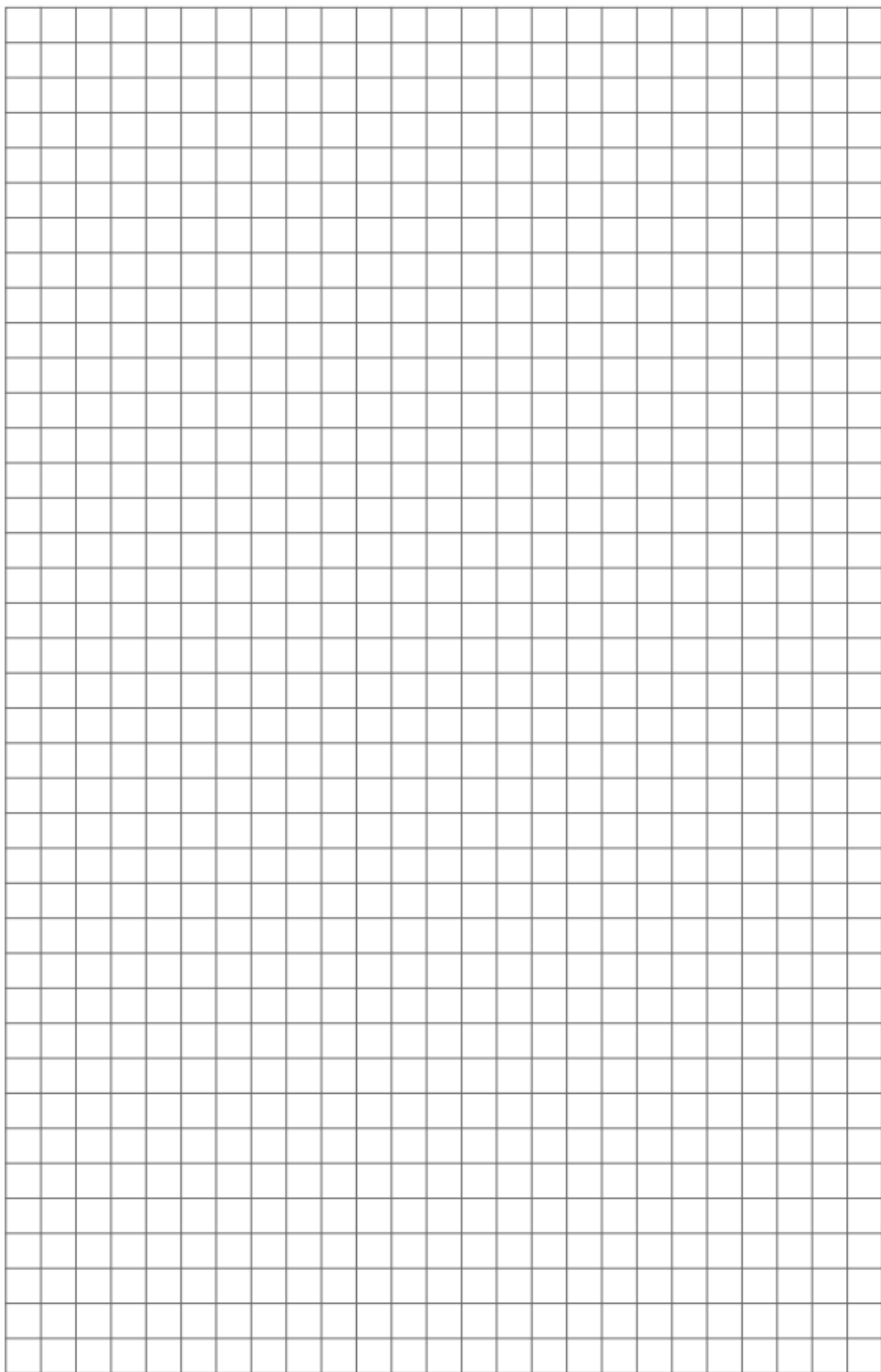
- 2) Here is a bar model to represent three unknown numbers.

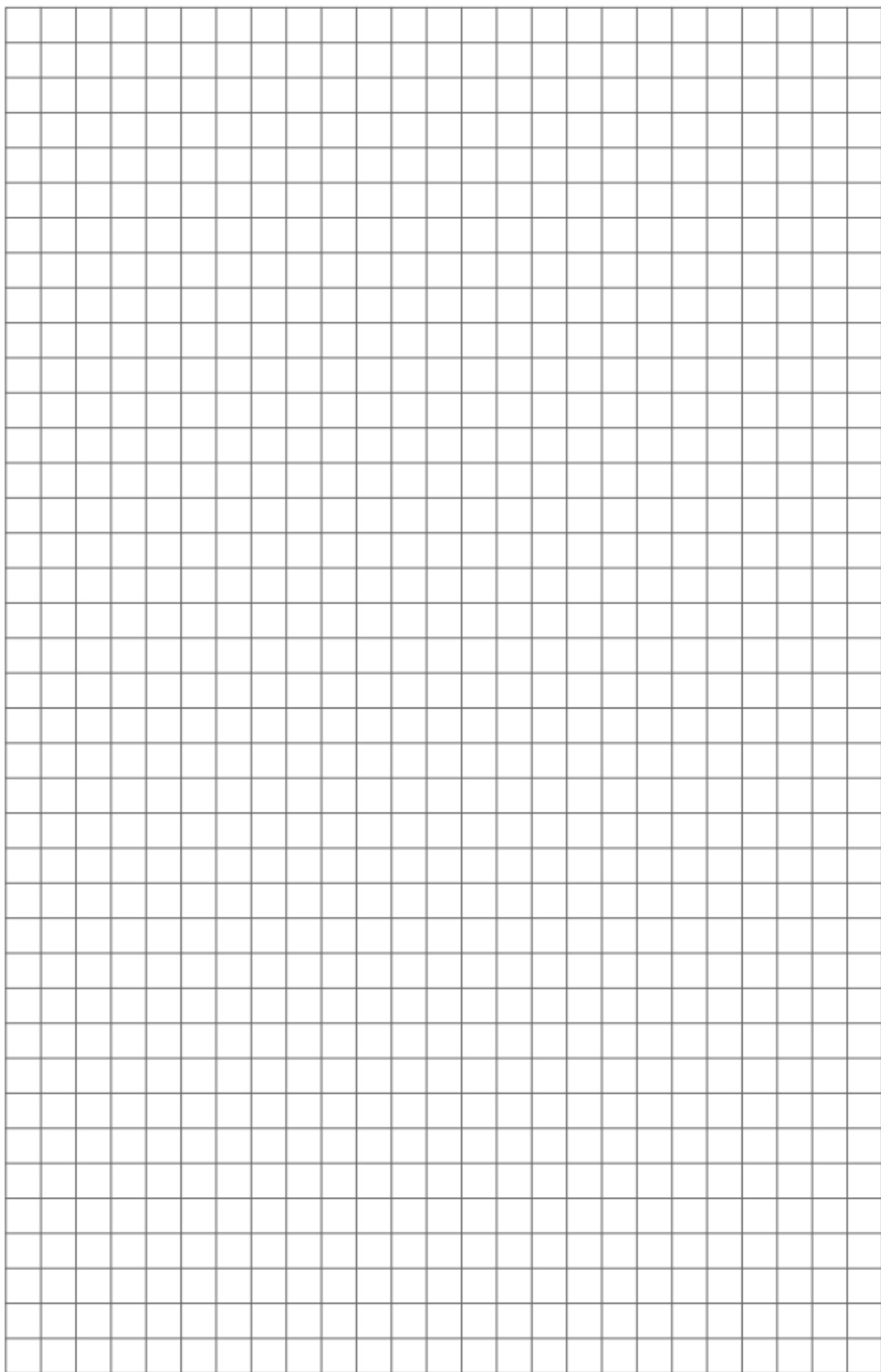
A	
B	C

- When B and C are added together, they make A.
- B is twice the value of C.
- A is a number between 100 and 200.

Give three possible values for each of A, B and C.

- 3) Answer these problems in words by thinking about the key information in the question.
- a) 168 parents watched the performance of a class play on Monday evening. On Tuesday evening, there were 29 fewer parents watching the performance. How many parents altogether watched the performances?
- b) The school hall is normally able to seat 350 people. There are 10 rows of seats with 35 seats in each row. Tonight, it can only fit in 9 rows of seats. If all of the above parents came tonight, would there be any seats left over?





## Fluency—Answers



1)

127	96
$\frac{1}{2}$ book = 223	

$\frac{1}{2}$ book = 223	$\frac{1}{2}$ book = 223
whole book = 446	

223 is halfway through the book. I need to double 223 to find the number of pages the book has altogether.

$$223 \times 2 = 446 \text{ pages}$$

2) Multiple answers possible, including:

$$A = 120/150/180/123$$

$$B = 80/100/120/82$$

$$C = 40/50/60/41$$

3) a) Number of parents at Tuesday's performance is  $168 - 29 = 139$

$$168 + 139 = 307 \text{ parents altogether}$$

b) Yes, there would be 8 seats left over.

$$350 - 35 = 315$$

$$315 - 307 = 8 \text{ seats left}$$

## Problem Solving and Reasoning

A milkman has 250 bottles of milk.

He collects another 160 from the dairy,  
and delivers 375 during the day.

How many does he have left?



Tommy

My method:

$$375 - 250 = 125$$

$$125 + 160 = 285$$

Do you agree with Tommy?  
Explain why.



On Monday, Whitney was paid £114

On Tuesday, she was paid £27 more than  
on Monday.

On Wednesday, she was paid £27 less  
than on Monday.

How much was Whitney paid in total?

How many calculations did you do?

Is there a more efficient method?

Explain it!



Use it!



*Problem Solving and Reasoning*

*Answers*

Tommy is wrong.  
He should have  
added 250 and  
160, then  
subtracted 375  
from the answer.

There are 35  
bottles of milk  
remaining.

£342

Children might  
add 114 and 27,  
subtract 27 from  
114 and then add  
their numbers.

A more efficient  
method is to  
recognise that the  
'£27 more' and  
'£27 less' cancel  
out so they can  
just multiply £114  
by three.

