


Year 5
Maths
Booklet 2
Multiplication
and Division

Vocabulary

MULTIPLICATION

multiply
times
product
multiplied
by

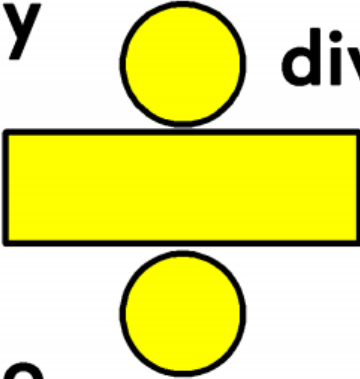


groups of
lots of
doubled
times tables

www.instantdisplay.co.uk


DIVISION

divided by
share
divide
divide into



divisible by
group
each
share equally

www.instantdisplay.co.uk

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

$3 \times 4 =$

$7 \times 8 =$

$9 \div 3 =$

$36 \div 12 =$

$21 \div 7 =$

$8 \times 6 =$

$12 \times 4 =$

$10 \times 8 =$

$4 \times 8 =$

$3 \times 9 =$

$4 \times 7 =$

$3 \times 11 =$

$40 \div 8 =$

$15 \div 3 =$

$27 \div 9 =$

$20 \div 4 =$

$4 \times 11 =$

$48 \div 6 =$

$8 \div 4 =$

$6 \times 8 =$

$5 \times 8 =$

$11 \times 3 =$

$5 \times 8 =$

$80 \div 10 =$

$24 \div 4 =$

$88 \div 11 =$

$24 \div 3 =$

$4 \times 1 =$

$72 \div 8 =$

$8 \times 4 =$

$9 \times 4 =$

$8 \times 5 =$

$10 \times 3 =$

$16 \div 4 =$

$8 \times 11 =$

$6 \times 4 =$

$5 \times 4 =$

$32 \div 8 =$

$6 \div 3 =$

$3 \div 3 =$

$12 \div 3 =$

$3 \times 6 =$

$48 \div 12 =$

$44 \div 11 =$

$4 \times 9 =$

$8 \div 8 =$

$3 \times 4 =$

$7 \times 3 =$

$11 \times 8 =$

$4 \times 3 =$

$0 \times 8 =$

$12 \times 8 =$

$3 \times 12 =$

$48 \div 8 =$

$18 \div 3 =$

$28 \div 4 =$

$24 \div 8 =$

$30 \div 10 =$

$3 \times 3 =$

$56 \div 7 =$

$27 \div 3 =$

$8 \times 9 =$

$64 \div 8 =$

$4 \times 12 =$

$7 \times 4 =$

$10 \times 4 =$

$36 \div 4 =$

$5 \times 3 =$

$36 \div 9 =$

$16 \div 8 =$

$8 \times 8 =$

$56 \div 7 =$

$56 \div 8 =$

$8 \times 3 =$

$21 \div 3 =$

$4 \times 6 =$

$3 \times 0 =$

$72 \div 9 =$

$4 \times 12 =$

$32 \div 4 =$

$12 \div 4 =$

$3 \times 8 =$

$96 \div 12 =$

$12 \times 3 =$

$33 \div 3 =$

$4 \times 4 =$

$24 \div 8 =$

$7 \times 8 =$

$6 \times 3 =$

$9 \times 8 =$

$2 \times 3 =$

$9 \times 3 =$

$40 \div 4 =$

$4 \div 4 =$

$11 \times 4 =$





$21 \div 3 =$

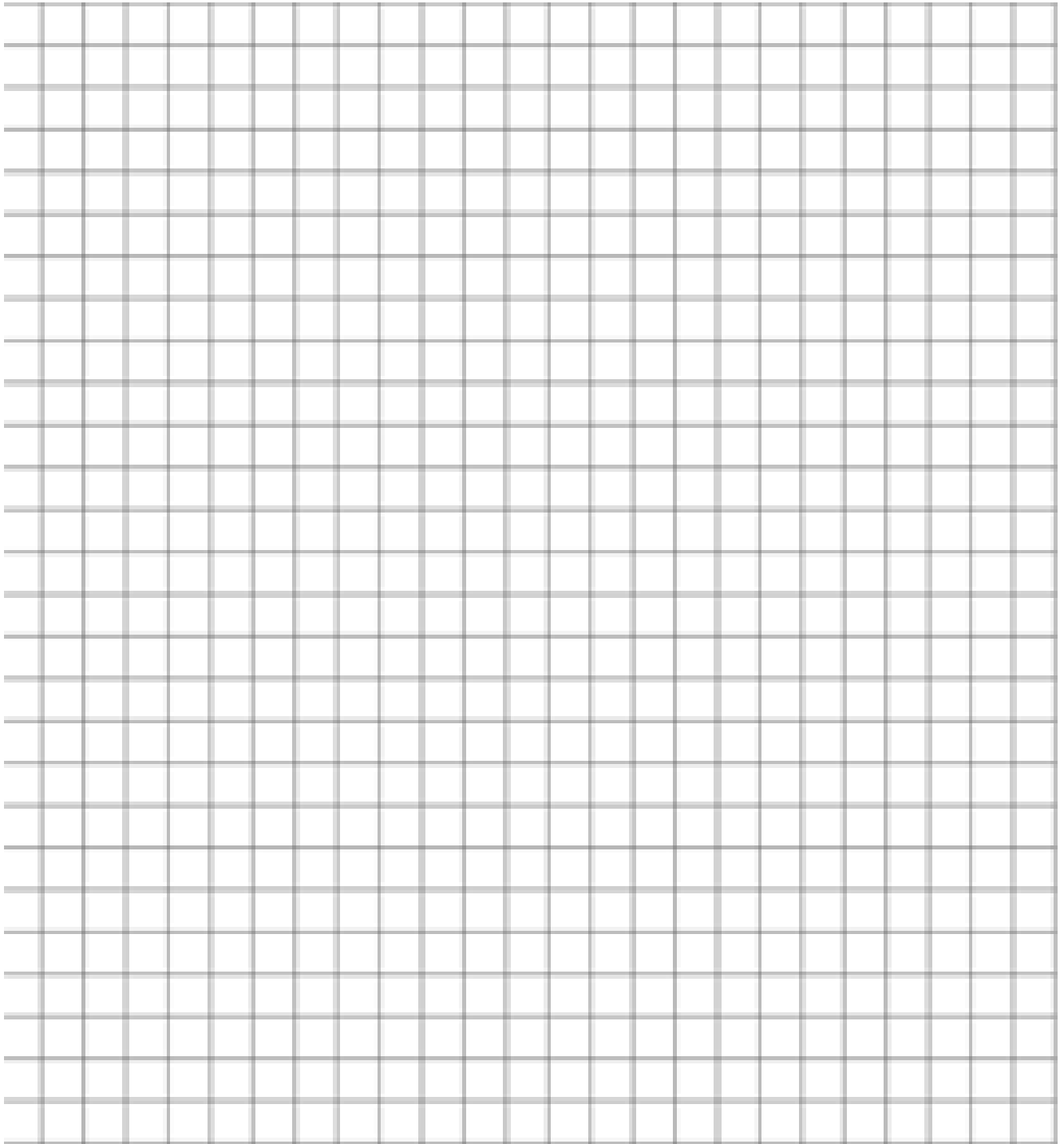
$28 \div 7 =$

$3 \times 7 =$

$32 \div 8 =$

$8 \times 12 =$

Date			
Subject/s	<u>Maths</u>		
Learning Objective 	To use short multiplication		
		SA 	TA 
Success Criteria 	I know to start with the ones		
	I can use my times tables knowledge		
	I know to add the numbers that have been exchanged		
Support	Independent	Adult Support ()	Group Work
Pre-task: Calculate			
	$32 \times 8 =$	$72 \times 3 =$	$574 \times 4 =$



Teacher Led

Here you can see the written method alongside place value counters to represent 3223×3 . In each column there are three lots of each digit because we are multiplying by 3.

Thousands	Hundreds	Tens	Ones
●●●●	●●	●●	●●●
●●●●	●●	●●	●●●
●●●●	●●	●●	●●●

Th	H	T	O
3	2	2	3
			3

Now lets try another calculation.

Thousands	Hundreds	Tens	Ones
●●●●	●●	●●	●●●
●●●●	●●	●●	●●●
●●●●	●●	●●	●●●

Th	H	T	O
3	2	2	3
			3
9	6	6	9

Begin by multiplying the ones column: 3 lots of 3 ones = 9. Then move onto the tens. 3 lots of 2 tens = 6 tens. Next, move to the hundreds. 3 lots of 2 hundreds = 6 hundreds. Finally, look at the thousands. 3 lots of 3 thousands = 9 thousands.

Thousands	Hundreds	Tens	Ones
●●	●	●	●●●●
●●	●	●	●●●●
●●	●	●	●●●●

Th	H	T	O
2	1	1	4
			3

Now look at this problem. We can see the written method and place value counters to represent 2114×3 .

Begin at the ones, so 3 lots of 4 ones = 12 ones.

We can't have more than 9 in a place value column, so we will need to exchange.

Thousands	Hundreds	Tens	Ones
●●	●	●	●●
●●	●	●	
●●	●	●	

Th	H	T	O
2	1	1	4
			3
			2
			1

You can see we have exchanged 10 ones for 1 ten. You can see this represented with the place value counters. This has been shown on the written method by recording the ten just under the tens column.

Thousands	Hundreds	Tens	Ones
●●	●	●	●●
●●	●	●	
●●	●	●	

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

Now we can calculate the multiplication for the tens column. 3 lots of 1 = 3. However, I must remember to add the exchange on. Therefore $3 \times 1 = 3$. $3 + 1 = 4$.

Thousands	Hundreds	Tens	Ones
●●	●	●	●●
●●	●	●	
●●	●	●	

Th	H	T	O
2	1	1	4
			3
6	3	4	2
			1

Now I can complete the calculation.

$$3 \times 1 \text{ hundred} = 3$$

$$3 \times 2 \text{ thousands} = 6.$$

Fluency

Complete these calculations using the squared paper on the next pages.

$$\begin{array}{r} 1. \quad 7,519 \\ \times \quad 7 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 6,642 \\ \times \quad 6 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 6,290 \\ \times \quad 5 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 9,512 \\ \times \quad 5 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 3,613 \\ \times \quad 3 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 8,726 \\ \times \quad 6 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 4,957 \\ \times \quad 2 \\ \hline \\ \hline \end{array}$$

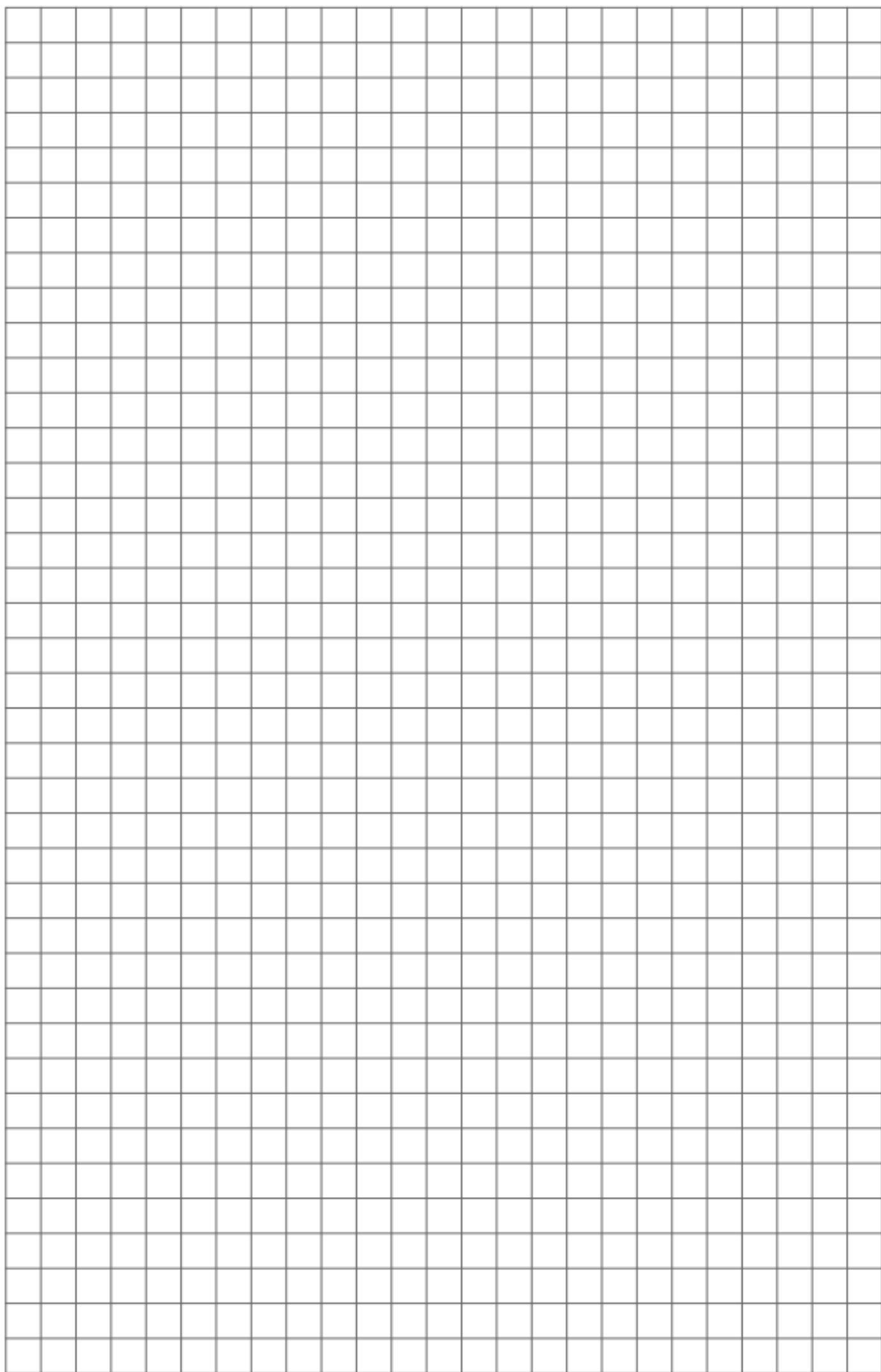
$$\begin{array}{r} 8. \quad 7,902 \\ \times \quad 6 \\ \hline \\ \hline \end{array}$$

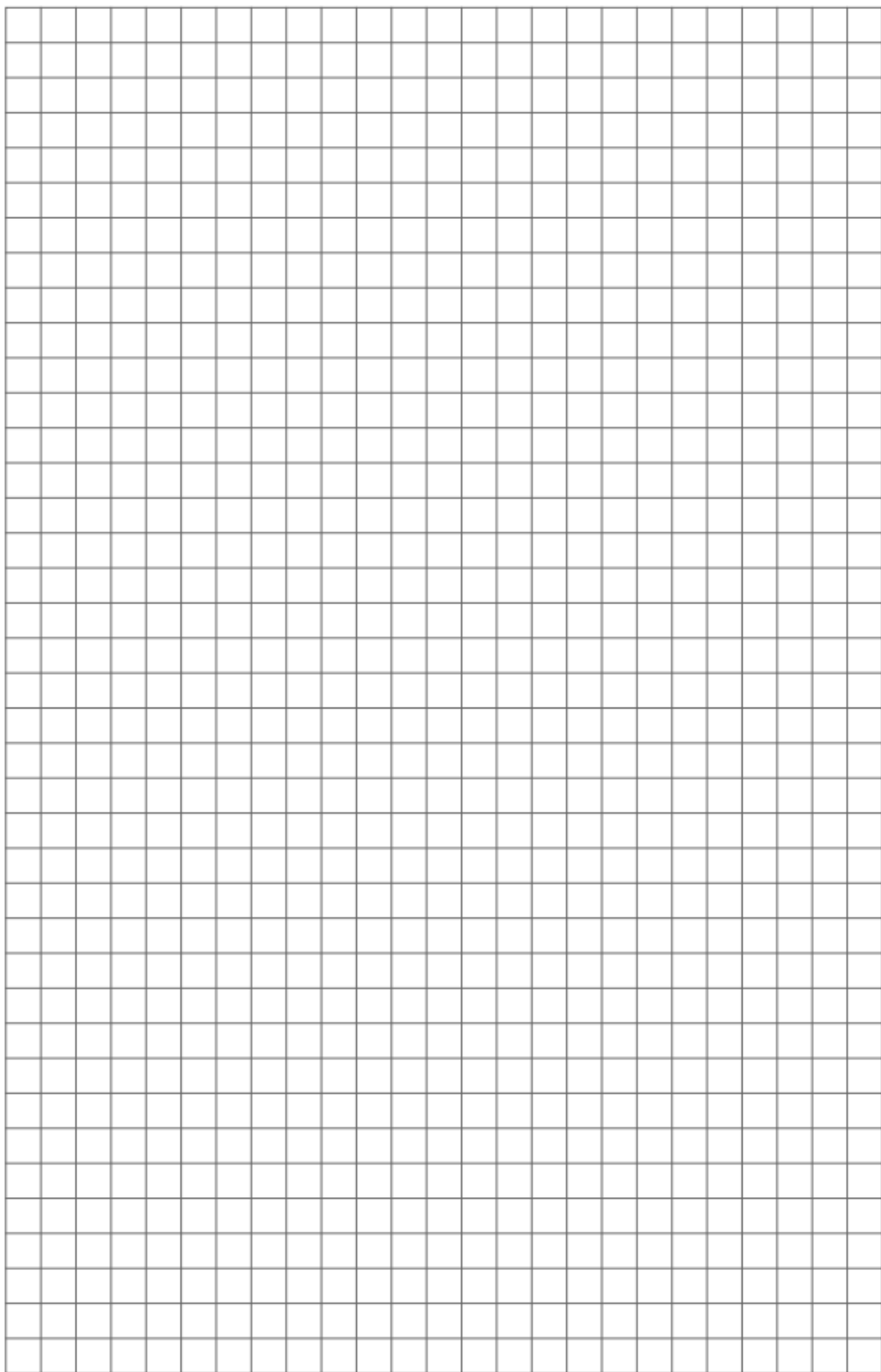
$$\begin{array}{r} 9. \quad 6,237 \\ \times \quad 5 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 9,847 \\ \times \quad 5 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 867 \\ \times \quad 8 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 1,907 \\ \times \quad 4 \\ \hline \\ \hline \end{array}$$





Fluency—Answers

1) 52633

2) 39852

3) 31450

4) 47560

5) 10839

6) 52356

7) 9914

8) 47412

9) 31 185

10) 49235

11) 6936

12) 7628

Problem Solving and Reasoning

Alex calculated $1,432 \times 4$

Explain it!

Here is her answer.



	Th	H	T	O
	1	4	3	2
×				4
	4	16	12	8

$$1,432 \times 4 = 416,128$$

Can you explain what Alex has done wrong?

Can you work out the missing numbers using the clues?

$$\begin{array}{r} \square \square \square \square \\ \times \qquad \qquad \qquad 5 \\ \hline \square \square \square \square \square \\ \hline \end{array}$$

- The 4 digits being multiplied by 5 are consecutive numbers.
- The first 2 digits of the product are the same.
- The fourth and fifth digits of the answer add to make the third.



Problem Solving and Reasoning
Answers

Alex has not exchanged when she has got 10 or more in the tens and hundreds columns.

$$2,345 \times 5 = 11,725$$

Further Challenge

How many ways?


Complete using digits 0-9. The digit in the box with a border must be odd.

$$\square \square \times \square = \square \square$$

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	

Steps to Success

Date			
Subject/s	<u>Maths</u>		
Learning Objective  	To use long multiplication		
		SA 	TA 
Success Criteria 	I know to start with the ones		
	I know to use a place holder when multiplying the tens or hundreds		
	I can add answers		
Support	Independent	Adult Support ()	Group Work

Pre-task:

Calculate.

	4	2	6	7
×			3	4
<hr/>				
<hr/>				

	3	0	4	6
×			7	3
<hr/>				
<hr/>				

$$5,734 \times 26$$

$$23 \times 31$$

×	20	3
30	600	90
1	20	3

$$600 + 90 + 20 + 7 = 713$$

	H	T	O
		2	3
×	3	1	

$$23 \times 31$$

×	20	3
30	600	90
1	20	3

$$600 + 90 + 20 + 7 = 713$$

	H	T	O
		2	3
×	3	1	

×	20	3
30	600	90
1	20	3

$$600 + 90 + 20 + 7 = 713$$

	H	T	O
		2	3
×	3	1	
		2	3

×	20	3
30	600	90
1	20	3

$$600 + 90 + 20 + 7 = 713$$

	H	T	O
		2	3
×	3	1	
		2	3
		9	0

×	20	3
30	600	90
1	20	3

$$600 + 90 + 20 + 7 = 713$$

	H	T	O
		2	3
×	3	1	
		2	3
		6	9
			0

×	20	3
30	600	90
1	20	3

$$600 + 90 + 20 + 7 = 713$$

	H	T	O
		2	3
×	3	1	
		2	3
+		6	9
			0
		7	1
			3
		1	

Teacher Led

Now we will try multiplying by 2 digits.

Here you can see 23×31 represented in the area model (grid method) and in the written long multiplication method.

We need to multiply 20 and 3 by both 30 and 1, then add our answers together.

The area method shows these multiplications in their parts.

Now let's focus on the long multiplication method.

We begin by multiplying the ones. $3 \times 1 = 3$.

You can see this on the area model and on the long multiplication method.

Let's move to the next part of the calculation.

We are still multiplying by 1, but this time it's 1×2 tens = 2 tens.

Again, you can see this on the area model and the long multiplication method.

Now we need to multiply by the 3 tens.

3 tens \times 3 ones = 90 or 9 tens.

Look carefully at how this is recorded. It is really important to put a zero in the ones column as a place holder, because we are multiplying by tens not ones.

For the next part of the calculation we need to do 3 tens \times 2 tens = 600 or 6 hundreds.

Finally, we need to add each part of the multiplication together, using column addition which we recapped last week.

Teacher Led continued

			3	6
x			3	2
				2
			1	

Now lets look at another example.

Remember, first we begin with the ones. So $2 \times 6 = 12$. I will need to exchange

			3	6
x			3	2
			7	2
			1	

Now, we continue by multiply 2. So $2 \times 3 \text{ tens} = 6 \text{ tens}$.

This time I need to add on my exchange. So $6 + 1 = 7$

			3	6
x			3	2
			7	2
			1	
			8	0
		1		

Now we can move on to multiplying the tens.

Don't forget to put in zero as a place holder to show we are multiplying by tens not ones

$3 \text{ tens} \times 6 \text{ ones} = 18 \text{ tens}$ or 180. I will need to exchange again

			3	6
x			3	2
			7	2
			1	
			8	0
	1	0		
		1		

Next we multiply 3 tens by 3 tens = 9 hundreds or 900.

But we must remember to add on the exchange. $9 + 1 = 10$

			3	6
x			3	2
			7	2
			1	
	1	0	8	0
		1		
	1	1	5	2
		1		

Finally, we add the two products together.

$$72 + 1080 = 1152$$

Fluency

2.				
			4	6
x			3	3

3.				
			1	6
x			3	3

4.				
			1	4
x			2	3

5.				
			2	5
x			3	6

6.				
			3	5
x			5	6

7.				
			3	4
x			2	3

8.				
			4	3
x			3	3

9.				
			4	2
x			2	5

10.				
			4	6
x			1	6

Fluency—Answers

2.

			4	6
x			3	3
		1	3	8
	1	3	8 ¹	0
	1	5 ¹	1	8

1

3.

			1	6
x			3	3
			4	8
		4	8 ¹	0
		5 ¹	2	8

1

4.

			1	4
x			2	3
			4	2
		2	8 ¹	0
		3	2	2

1

5.

			2	5
x			3	6
		1	5	0
		7	5 ³	0
		9 ¹	0	0

1

6.

			3	5
x			5	6
		2	1	0
	1	7	5 ³	0
	1 ¹	9 ²	6	0

7.

			3	4
x			2	3
		1	0	2
		6	8 ¹	0
		7	8	2

8.

			4	3
x			3	3
		1	2	9
	1	2	9	0
	1	4	1	9

1

9.

			4	2
x			2	5
		2	1	0
		8	4 ¹	0
	1	0	5	0

1

10.

			4	6
x			1	6
		2	7	6
		4 ²	6 ³	0
		7 ³	3	6

1

Problem Solving and Reasoning

Tommy says,



It is not possible to make 999 by multiplying two 2-digit numbers.

Do you agree?



Amir has multiplied 47 by 36



		4	7
x		3	6
	2	8	2
	1	4	1
	3	2	3

Alex says,



Amir is wrong because the answer should be 1,692 not 323

Who is correct?

What mistake has been made?

Explain it!




Problem Solving and Reasoning
Answers





Children may use a trial and error approach during which they'll further develop their multiplication skills.

They will find that Tommy is wrong because 27×37 is equal to 999

Alex is correct. Amir has forgotten to use zero as a place holder when multiplying by 3 tens.

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

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

Date			
Subject/s	Maths		
Learning Objective 	To use long multiplication		
		SA 	TA 
Success Criteria 	I know to start with the ones		
	I know to use a place holder when multiplying the tens or hundreds		
	I can add answers		
Support	Independent	Adult Support ()	Group Work

Teacher Led

		7	1	8
x			4	5
				0
			4	

Here we can see the long multiplication method. This time we're multiplying 3 digits by 2 digits. The method stays the same as for 2 digits.

First, begin with the ones. $5 \times 8 = 40$. We need to exchange

		7	1	8
x			4	5
			9	0
			4	

Next we need to do $5 \times 1 = 5$.

Remember, we need to add on the exchange. $5 + 4 = 9$

		7	1	8
x			4	5
	3	5	9	0
			4	

Now we need to do $5 \times 7 = 35$.

We're not finished yet, we still need to multiply the tens. Turn to the next page to see how.

		7	1	8
x			4	5
	3	5	9	0
			4	0
				0

Now we can multiply the tens.

Our first step is to put in a zero as a place holder. This shows that we are multiplying by tens, not ones.

		7	1	8
x			4	5
	3	5	9	0
			4	0
			2	0
	3			

Now we do $4 \times 8 = 32$.

We will need to exchange.

		7	1	8
x			4	5
	3	5	9	0
			4	0
		7	2	0
	3			

Next, we do $4 \times 1 = 4$.

Don't forget to add on the exchange. $4 + 3 = 7$

		7	1	8
x			4	5
	3	5	9	0
			4	0
2	8	7	2	0
	3			

Next, we will do $4 \times 7 = 28$.

		7	1	8
x			4	5
	3	5	9	0
			4	0
2	8	7	2	0
	3			
3	2	3	1	0
1	1	1		

Finally, we add our two products together.

Use column addition for this.

Fluency

1.				
		1	6	1
x			2	3

2.				
		2	3	2
x			2	6

3.				
		6	1	4
x			1	8

4.				
		9	6	9
x			9	5

5.				
		7	4	0
x			9	6

6.				
		3	6	2
x			5	8

7.					
		1	4	6	2
x				7	0

8.					
		1	2	3	9
x				1	9

9.					
		1	3	5	9
x				7	7

Fluency—Answers

1.

		1	6	1
x			2	3
		4	8	3
	3	2	2	0
	3	7	0	3

2.

		2	3	2
x			2	6
	1	3	9	2
	4	6	4	0
	6	0	3	2

3.

		6	1	4
x			1	8
	4	9	1	2
	6	1	4	0
1	1	0	5	2

4.

		9	6	9
x			9	5
	4	8	4	5
8	7	2	1	0
9	2	0	5	5

5.

		7	4	0
x			9	6
	4	4	4	0
6	6	6	0	0
7	1	0	4	0

6.

		3	6	2
x			5	8
	2	8	9	6
1	8	1	0	0
2	0	9	9	6

7.

		1	4	6	2
x				7	0
					0
1	0	2	3	4	0
1	0	2	3	4	0

8.

		1	2	3	9
x				1	9
	1	1	1	5	1
	1	2	3	9	0
	2	3	5	4	1

9.

		1	3	5	9
x				7	7
		9	5	1	3
	9	5	1	3	0
1	0	4	6	4	3

Problem Solving and Reasoning
Answers

There are 2 errors.
In the first line of working, the exchanged ten has not been added.
In the second line of working, the place holder is missing.
The correct answer should be 58,282


The missing digits are all 8

Further Challenge



A three-digit number is multiplied by a two-digit number and the calculation is written out.

Each star stands for one digit. Apart from the zero shown, the only digits which occur are 2, 3, 5 and 7. What are the missing numbers?

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

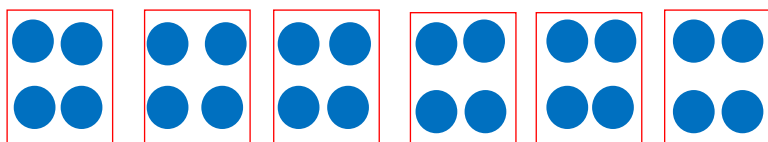
Date			
Subject/s	<u>Maths</u>		
Learning Objective 	To use short division		
	SA 	TA 	
Success Criteria 	I can put the first number inside the bus stop		
	I can put the number I am dividing by on the outside		
	I can write remainders next to correct digits		
Support	Independent	Adult Support ()	Group Work
Pre-task: Calculate using short division. <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> <div style="border: 1px solid black; padding: 5px; display: flex; gap: 10px;"> 5 7 2 5 </div> <div style="border: 1px solid black; padding: 5px; display: flex; gap: 10px;"> 3 1 9 3 8 </div> </div>			

Teacher Led

Before we begin short division, let's do a quick recap of dividing.

$$24 \div 4 = 6$$

I can check this with grouping. 24 split into groups of 4 makes 6 groups.

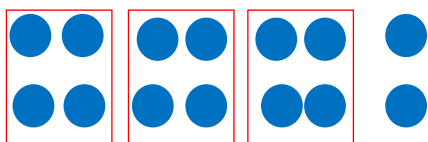


It is quicker to use my times tables though!

I know that $6 \times 4 = 24$ so I know that $24 \div 4 = 6$

What if there are some left over?

Lets try $14 \div 4 =$



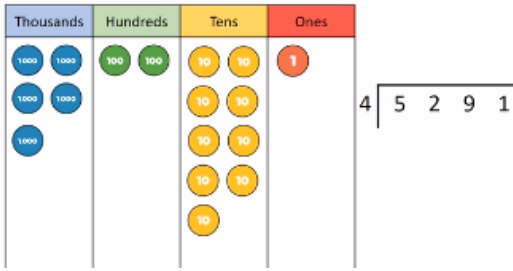
I can see 3 groups of 4 with 2 left over. We call this a remainder and write it like this:

$$14 \div 4 = 3 \text{ r}2$$

Remember times tables really help to speed it up. I know $3 \times 4 = 12$ and $14 - 12 = 2$.

For our first short division question we will be dividing by 4. It may help to write out your 4 times table

$$5,291 \div 4$$

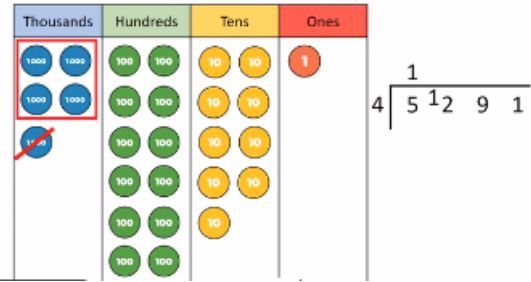


Teacher Led

We are going to use short division to divide a 4 digit number by a 1 digit number. This method is sometimes called 'bus stop'.

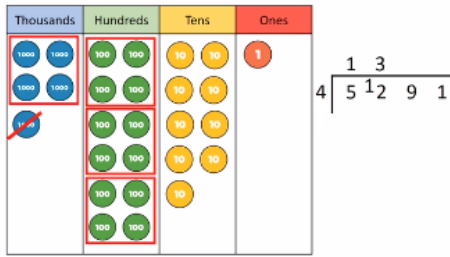
Here you can see the written method, showing 5291 inside the 'bus stop'.

Alongside it is a place value grid and counters.

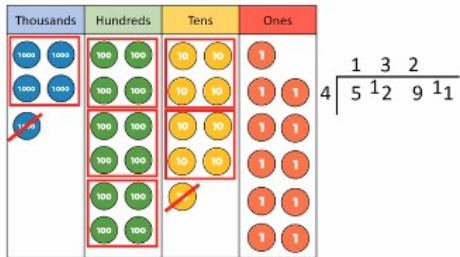


With short division we begin with the largest digit, in this number it is the thousands. So, 5 thousands divided by 4 (how many 4s are in 5). This gives an answer of 1 with 1 left over (remainder).

We can exchange this remainder into our next column—the hundreds.

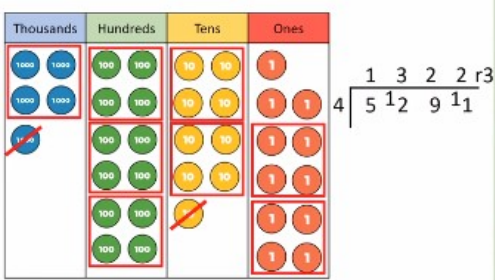


Now we need to do 12 hundreds divided by 4 = 3 hundreds.



Next we look at the tens. 9 tens divided by 4 = 2 tens with 1 remainder.

We then exchange the remaining ten for ten ones.



Finally, we look at the ones.

11 ones divided by 4 = 2 groups with 3 left over. These leftover ones are our remainder.

So the final calculation is:

$$5291 \div 4 = 1322 \text{ r}3$$

Fluency

Use the squared paper on the next page to work out these division questions.

1) $6358 \div 5 =$

2) $5469 \div 3 =$

3) $7489 \div 4 =$

4) $7652 \div 4 =$

5) $8283 \div 3 =$

6) $9625 \div 5 =$

7) $5407 \div 4 =$

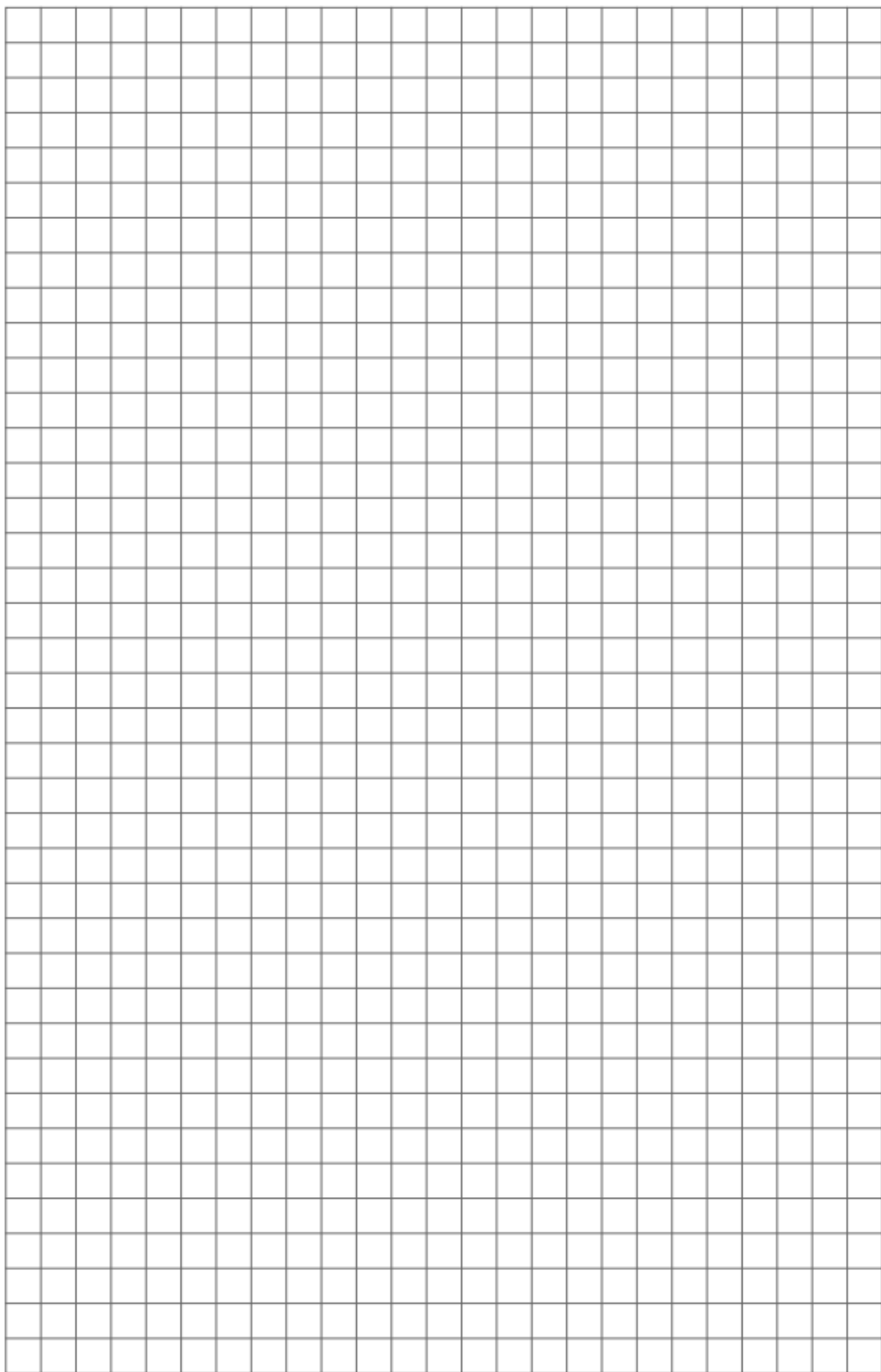
8) $9824 \div 4 =$

9) $7653 \div 5 =$

10) $4635 \div 3 =$

11) $1357 \div 4 =$

12) $2804 \div 3 =$



Fluency—Answers

$$1) \begin{array}{r} 1271 \text{ r}3 \\ 5 \overline{)6358} \end{array}$$

$$2) \begin{array}{r} 1823 \\ 3 \overline{)5469} \end{array}$$

$$3) \begin{array}{r} 1872 \text{ r}1 \\ 4 \overline{)7489} \end{array}$$

$$4) \begin{array}{r} 191 \text{ r}2 \\ 4 \overline{)7652} \end{array}$$

$$5) \begin{array}{r} 2761 \\ 3 \overline{)82183} \end{array}$$

$$6) \begin{array}{r} 1925 \\ 5 \overline{)94625} \end{array}$$

$$7) \begin{array}{r} 1351 \text{ r}3 \\ 4 \overline{)5407} \end{array}$$

$$8) \begin{array}{r} 2458 \\ 4 \overline{)9824} \end{array}$$

$$9) \begin{array}{r} 153 \text{ r}3 \\ 5 \overline{)7653} \end{array}$$

$$10) \begin{array}{r} 1545 \\ 3 \overline{)4635} \end{array}$$

$$11) \begin{array}{r} 0339 \text{ r}1 \\ 4 \overline{)1357} \end{array}$$

$$12) \begin{array}{r} 0934 \text{ r}2 \\ 3 \overline{)2804} \end{array}$$

Problem Solving and Reasoning

Jack is calculating $2,240 \div 7$

He says you can't do it because 7 is larger than all of the digits in the number.

Do you agree with Jack?
Explain your answer.

Explain it!



Explain and correct the working.

Thousands	Hundreds	Tens	Ones

	3	1	0	1
3	9	4	1	4

Explain it!




Problem Solving and Reasoning
Answers

Jack is incorrect.
You can exchange
between columns.
You can't make a
group of 7
thousands out of 2
thousand, but you
can make groups
of 7 hundreds out
of 22 hundreds.

The answer is 320

There is no
exchanging
between columns
within the
calculation.

The final answer
should have been
3,138

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

$3 \times 4 =$

$7 \times 8 =$

$9 \div 3 =$

$36 \div 12 =$

$21 \div 7 =$

$8 \times 6 =$

$12 \times 4 =$

$10 \times 8 =$

$4 \times 8 =$

$3 \times 9 =$

$4 \times 7 =$

$3 \times 11 =$

$40 \div 8 =$

$15 \div 3 =$

$27 \div 9 =$

$20 \div 4 =$

$4 \times 11 =$

$48 \div 6 =$

$8 \div 4 =$

$6 \times 8 =$

$5 \times 8 =$

$11 \times 3 =$

$5 \times 8 =$

$80 \div 10 =$

$24 \div 4 =$

$88 \div 11 =$

$24 \div 3 =$

$4 \times 1 =$

$72 \div 8 =$

$8 \times 4 =$

$9 \times 4 =$

$8 \times 5 =$

$10 \times 3 =$

$16 \div 4 =$

$8 \times 11 =$

$6 \times 4 =$

$5 \times 4 =$

$32 \div 8 =$

$6 \div 3 =$

$3 \div 3 =$

$12 \div 3 =$

$3 \times 6 =$

$48 \div 12 =$

$44 \div 11 =$

$4 \times 9 =$

$8 \div 8 =$

$3 \times 4 =$

$7 \times 3 =$

$11 \times 8 =$

$4 \times 3 =$

$0 \times 8 =$

$12 \times 8 =$

$3 \times 12 =$

$48 \div 8 =$

$18 \div 3 =$

$28 \div 4 =$

$24 \div 8 =$

$30 \div 10 =$

$3 \times 3 =$

$56 \div 7 =$

$27 \div 3 =$

$8 \times 9 =$

$64 \div 8 =$

$4 \times 12 =$

$7 \times 4 =$

$10 \times 4 =$

$36 \div 4 =$

$5 \times 3 =$

$36 \div 9 =$

$16 \div 8 =$

$8 \times 8 =$

$56 \div 7 =$

$56 \div 8 =$

$8 \times 3 =$

$21 \div 3 =$

$4 \times 6 =$

$3 \times 0 =$

$72 \div 9 =$

$4 \times 12 =$

$32 \div 4 =$

$12 \div 4 =$

$3 \times 8 =$

$96 \div 12 =$

$12 \times 3 =$

$33 \div 3 =$

$4 \times 4 =$

$24 \div 8 =$

$7 \times 8 =$

$6 \times 3 =$

$9 \times 8 =$

$2 \times 3 =$

$9 \times 3 =$

$40 \div 4 =$

$4 \div 4 =$

$11 \times 4 =$





$21 \div 3 =$

$28 \div 7 =$

$3 \times 7 =$

$32 \div 8 =$

$8 \times 12 =$

Date			
Subject/s	<u>Maths</u>		
Learning Objective 	To use short division—continued		
		SA 	TA 
Success Criteria 	I can put the first number inside the bus stop		
	I can put the number I am dividing by on the outside		
	I can write remainders next to correct digits		
Support	Independent	Adult Support ()	Group Work

Teacher Led

Today's fluency work continues from the short division method we learnt yesterday. The divisors are a little more difficult today. Remember, if you struggle with your times tables, write down the ones you need.

There is a times table grid on the next page, if you need help.

Let's recap:

There are 349 people at a wedding.
They are sitting at tables in groups of 8

How many tables are needed?

$$\begin{array}{r} 0 \ 4 \ 3 \ r5 \\ 8 \overline{) 3 \ 34 \ 29} \end{array}$$

We need 43 tables

- First, write the calculation in the 'bus stop'.
- Then, write out your multiples of 8 to help you. 8, 16, 24, 32, 40, 48, 56, 64, 72, 80, 88, 96
- Next, remember to begin with the largest digit.
- $3 \div 8 =$ We can't do this, so record a 0 above the 3, then exchange it.
- $34 \div 8 = 4r2$ Exchange the 2
- $29 \div 8 = 3 \ r5$
- Answer 43 r5

$1 \times 1 = 1$									
$1 \times 2 = 2$	$2 \times 2 = 4$								
$1 \times 3 = 3$	$2 \times 3 = 6$	$3 \times 3 = 9$							
$1 \times 4 = 4$	$2 \times 4 = 8$	$3 \times 4 = 12$	$4 \times 4 = 16$						
$1 \times 5 = 5$	$2 \times 5 = 10$	$3 \times 5 = 15$	$4 \times 5 = 20$	$5 \times 5 = 25$					
$1 \times 6 = 6$	$2 \times 6 = 12$	$3 \times 6 = 18$	$4 \times 6 = 24$	$5 \times 6 = 30$	$6 \times 6 = 36$				
$1 \times 7 = 7$	$2 \times 7 = 14$	$3 \times 7 = 21$	$4 \times 7 = 28$	$5 \times 7 = 35$	$6 \times 7 = 42$	$7 \times 7 = 49$			
$1 \times 8 = 8$	$2 \times 8 = 16$	$3 \times 8 = 24$	$4 \times 8 = 32$	$5 \times 8 = 40$	$6 \times 8 = 48$	$7 \times 8 = 56$	$8 \times 8 = 64$		
$1 \times 9 = 9$	$2 \times 9 = 18$	$3 \times 9 = 27$	$4 \times 9 = 36$	$5 \times 9 = 45$	$6 \times 9 = 54$	$7 \times 9 = 63$	$8 \times 9 = 72$	$9 \times 9 = 81$	

Fluency

Complete these calculations using the squared paper on the next page

1) $1758 \div 9 =$

2) $1177 \div 7 =$

3) $1279 \div 8 =$

4) $8424 \div 6 =$

5) $9933 \div 4 =$

6) $8827 \div 8 =$

7) $2067 \div 9 =$

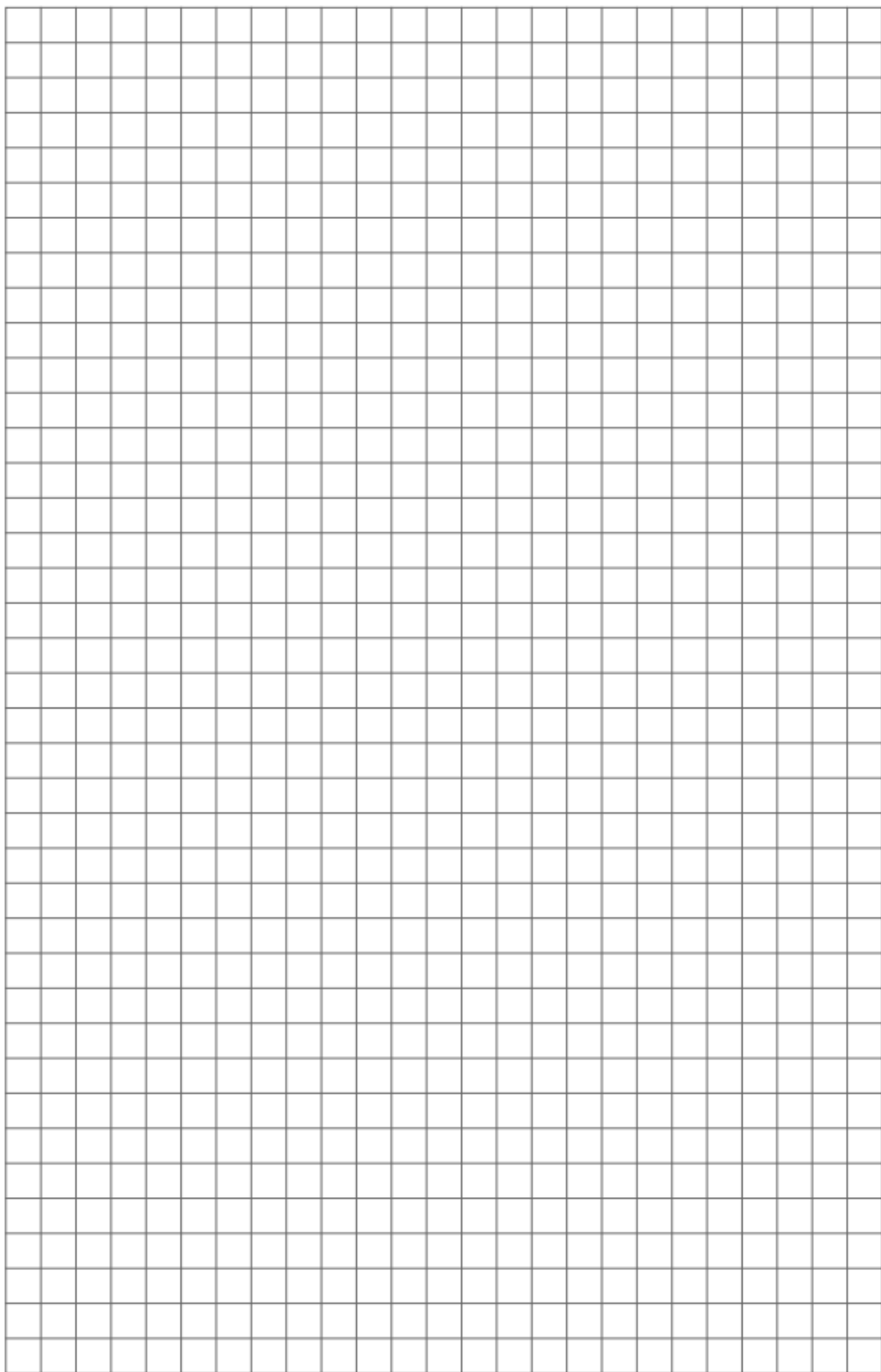
8) $6505 \div 9 =$

9) $2637 \div 7 =$

10) $4239 \div 5 =$

11) $4443 \div 9 =$

12) $4619 \div 3 =$



Fluency—answers

$$1) \begin{array}{r} 0173r1 \\ 9 \overline{) 1176528} \end{array}$$

$$2) \begin{array}{r} 0168r1 \\ 7 \overline{) 114757} \end{array}$$

$$3) \begin{array}{r} 0159r7 \\ 8 \overline{) 124779} \end{array}$$

$$4) \begin{array}{r} 1404 \\ 6 \overline{) 82424} \end{array}$$

$$5) \begin{array}{r} 2483r1 \\ 4 \overline{) 993313} \end{array}$$

$$6) \begin{array}{r} 1103r5 \\ 8 \overline{) 88229} \end{array}$$

$$7) \begin{array}{r} 0229r6 \\ 9 \overline{) 2202687} \end{array}$$

$$8) \begin{array}{r} 0722r7 \\ 9 \overline{) 652025} \end{array}$$

$$9) \begin{array}{r} 0376r5 \\ 7 \overline{) 2265347} \end{array}$$

$$10) \begin{array}{r} 0847r4 \\ 5 \overline{) 42339} \end{array}$$

$$11) \begin{array}{r} 0493r6 \\ 9 \overline{) 448433} \end{array}$$

$$12) \begin{array}{r} 1539r2 \\ 3 \overline{) 46129} \end{array}$$

Problem Solving and Reasoning

Explain the mistakes

$564 \div 3$

Mistake 1

$$\begin{array}{r} 121 \\ 3 \overline{)564} \end{array}$$

Mistake 2

$$\begin{array}{r} 194 \text{ r}2 \\ 3 \overline{)564} \end{array}$$

Mistake 3

$$\begin{array}{r} 187 \\ 3 \overline{)564} \end{array}$$

Explain it!



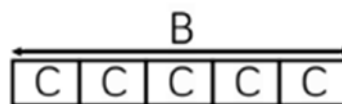
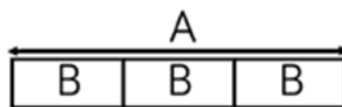
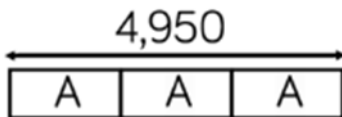
Find the missing digits

Use it!

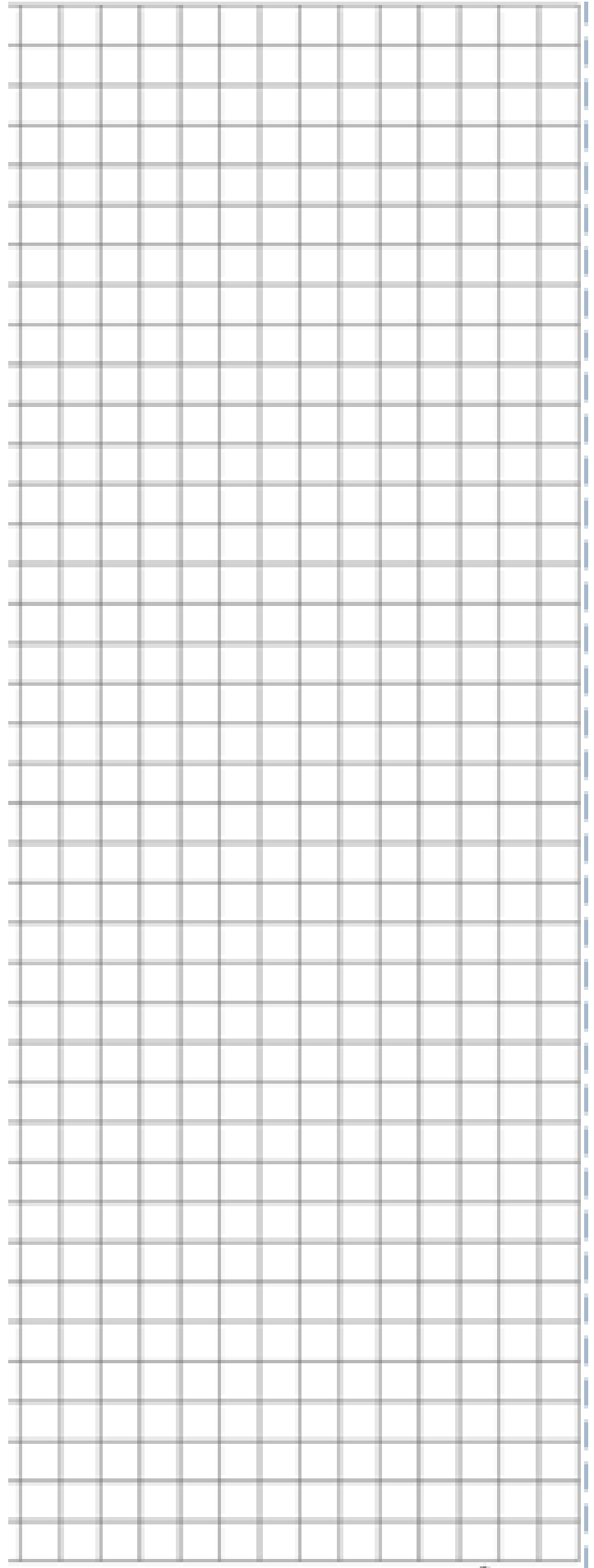
$$\begin{array}{r} 041 \square \text{r}3 \\ 4 \overline{)1 \square 59} \end{array}$$



Work out the value of C
(The bar models are not drawn to scale)



Use it!



Problem Solving and Reasoning
Answers

Mistake 1

They didn't add their remainders

Mistake 2

$3 \times 9 = 27$ so they can only get 8 into 26

Mistake 3

$3 \times 8 = 24$ not 3×7

$$\begin{array}{r} 0414r3 \\ 4 \overline{)1659} \end{array}$$

$$4,950 \div 3 = 1,650$$

$$1,650 \div 3 = 550$$

$$550 \div 5 = 110$$

Further Challenge

True or false?

'It's impossible to divide a number by 3 more than twice without leaving a remainder.'

Explain using examples.