2.3.22

WALT Use the Formal Written Method of Multiplication

F
R
PS

Vocabulary

multiply multiplication

2-digit numbers H T O

hundreds tens ones

place value representation

equal groups of partition

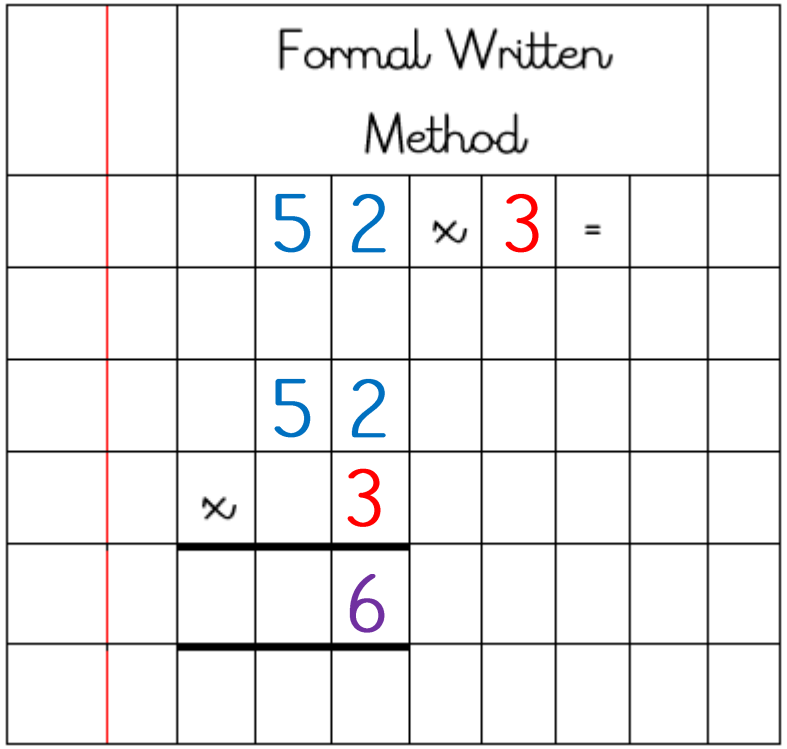
formal written method

1 digit in 1 square carried digit

regroup exchange

Using the Formal Written Method for 2-digit by 1-digit Multiplication

T	O
10 10 10 10 10	1 1
10 10 10 10 10	1 1
10 10 10 10 10	1 1

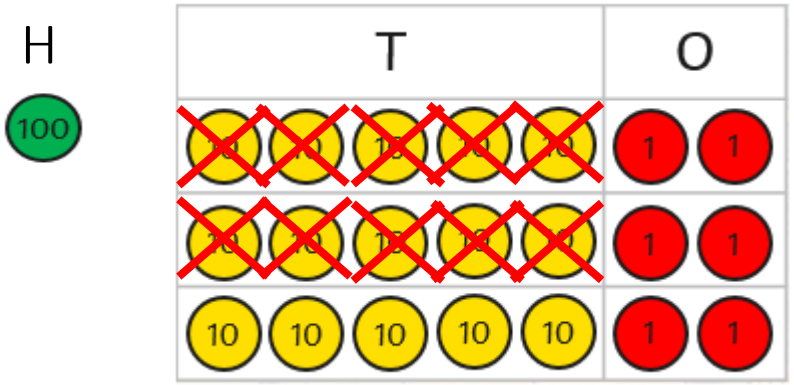


52 × 3

1. Multiply by the ONES column

   3 × 2 = 6

Using the Formal Written Method for 2-digit by 1-digit Multiplication



		Formal Written Method						
			5	2	×	3	=	
			5	2				
		×		3				
		1	5	6				

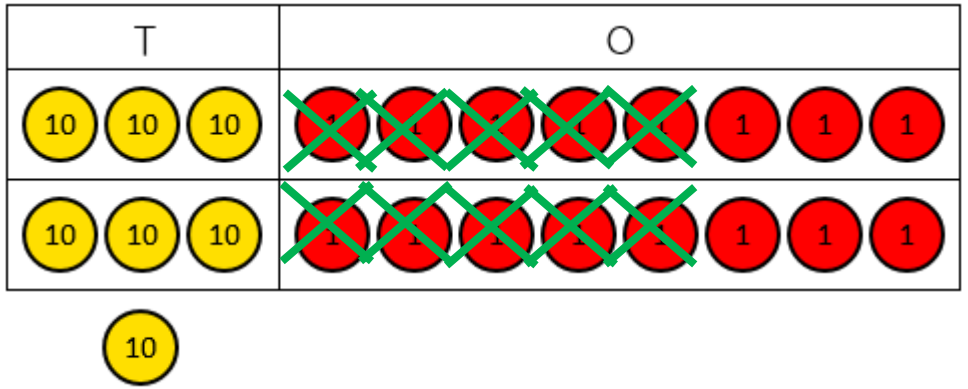
52 × 3

2. Multiply by the TENS column

   3 × 5 TENS = 15 TENS = 1 HUNDRED and 5 TENS

   10 TENS are exchanged for 1 HUNDRED

Using the Formal Written Method for 2-digit by 1-digit Multiplication



38 × 2

		Formal Written Method							
			3	8	×	2	=		
			3	8					
		×		2					
				6					
			1						

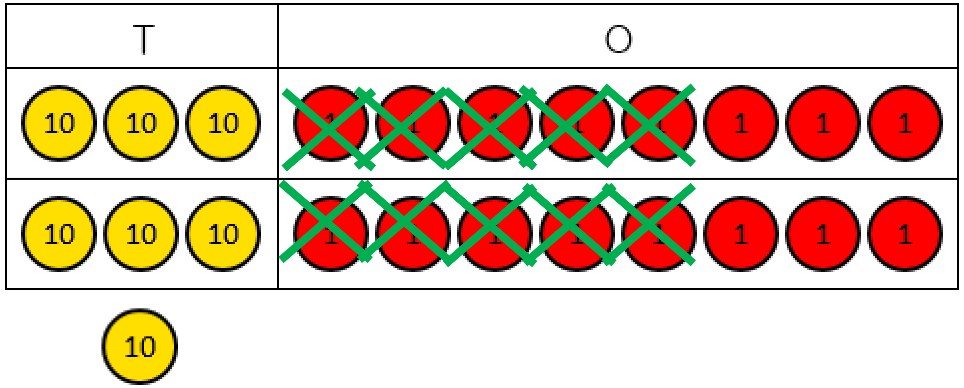
1. Multiply by the ONES column

   2 × 8 = 16 = 1 TEN and 6 ONES

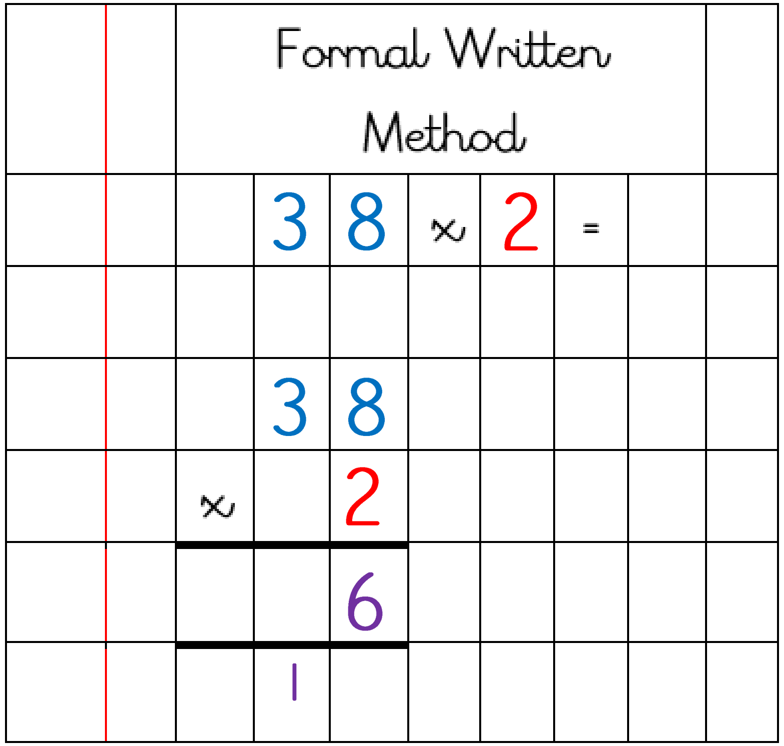
   10 ONES are exchanged for 1 TEN

The extra 1 TEN is carried below the answer line in the TENS column.

Using the Formal Written Method for 2-digit by 1-digit Multiplication



38 × 2

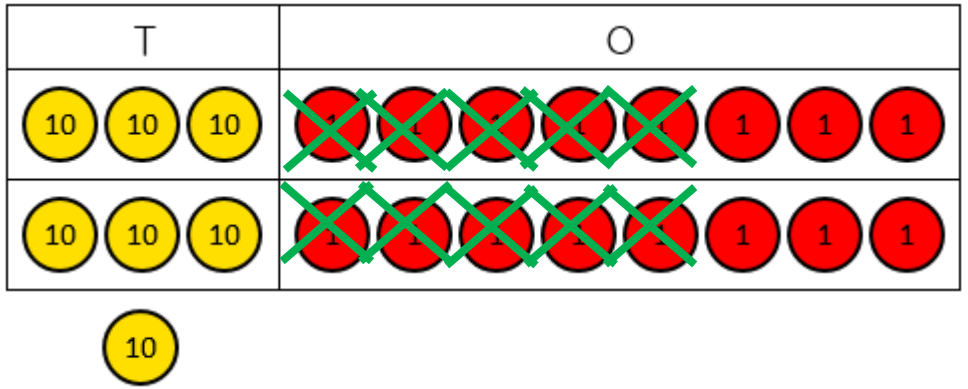


2. Multiply by the TENS column

2 × 3 TENS = 6 TENS

Don't write the 6 TENS yet!

Using the Formal Written Method for 2-digit by 1-digit Multiplication



38 × 2

2 × 3 TENS = 6 TENS

3. Add the carried digit to the TENS column

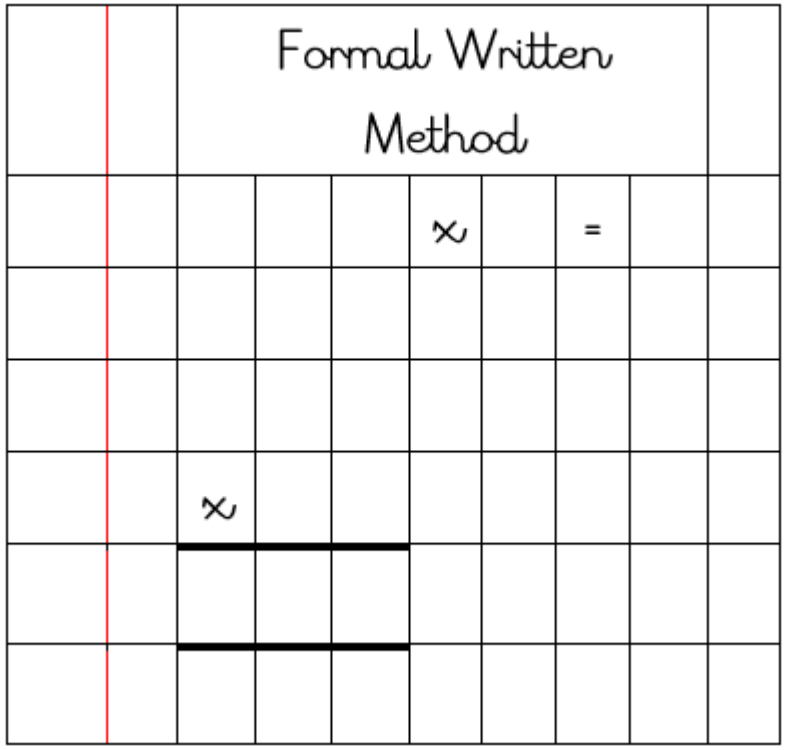
6 TENS + 1 TEN = 7 TENS

		Formal Written Method							
			3	8	×	2	=		
			3	8					
		×		2					
			7	6					
			~~1~~						

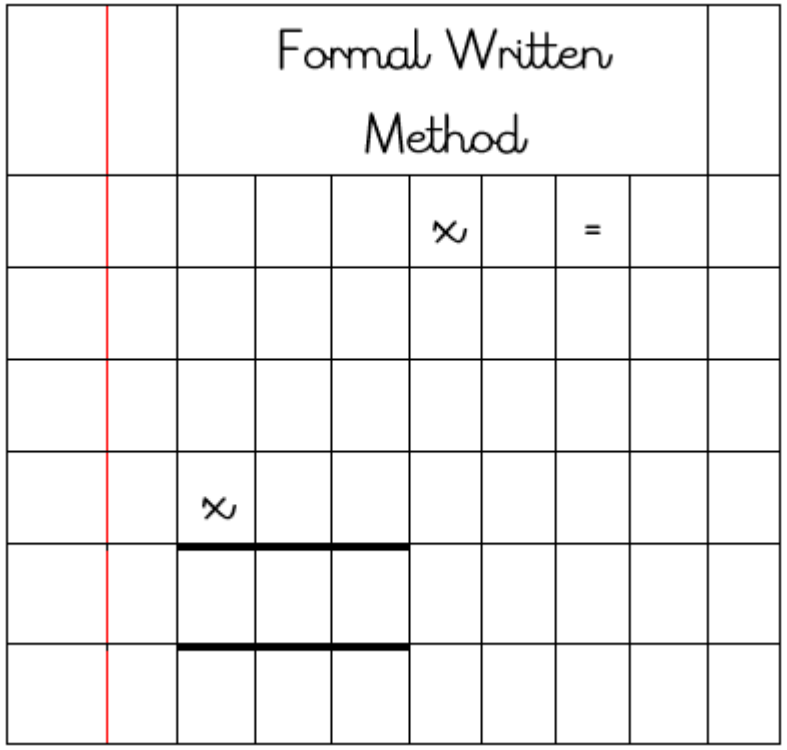
You can cross out the carried 1 when you've added it.

Extra practice:

71 × 5 =

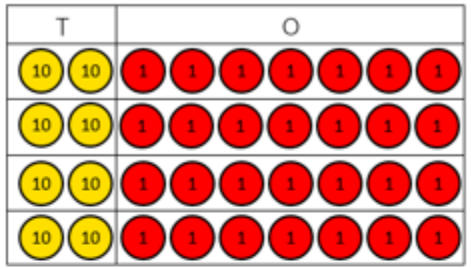


29 × 3 =



Fluency

1. What multiplication does this place value chart represent? Use the chart to help you calculate the answer.



_____ × _____ = _____

Now, set this calculation out using the formal written method:

		2	7	×	4	=				
			2	7						
		×		4						

2. Complete the blank place value chart to represent this calculation and calculate the answer.

43 × 3 = _____

T	O

Now, set the calculation out using the formal written method:

		4	3	×	3	=				
		×								

3.		1	9	×	6	-		
		×						

4.		6	2	×	4	-		
		×						

5.		7	1	×	7	-		
		×						

Set these questions out in your book, using the formal written method.

6. 17 × 5 =

7. 34 × 6 =

8. 28 × 3 =

Reasoning 1

Ron tries two different ways to work out 24 × 4.

		2	4
×			4

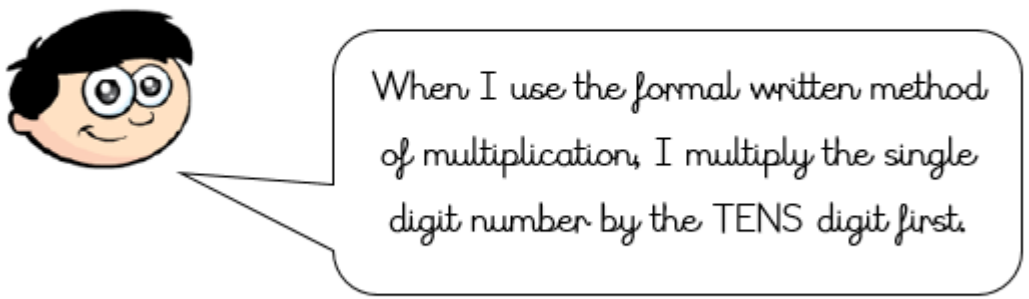
H	T	O
	10 10	1 1 1 1
	10 10	1 1 1 1
	10 10	1 1 1 1
	10 10	1 1 1 1
	10 10	1 1 1 1

Which layout is correct? Explain your reasoning.

Complete the correct layout to find the answer to Ron's question.

Reasoning 2

Dexter is thinking about the formal written method of multiplication.



Do you agree with Dexter? Explain your reasoning.

Problem Solving

Always, sometimes or never?

- When I multiply a 2-digit number by a 1-digit number, the answer has 3 digits.
- When I multiply a 2-digit number by 8, the answer is odd.
- When I multiply a 2-digit number by 7, I need to regroup and exchange.

Write down two different calculations using the formal written method to support each of your answers.