

08.01.21

LO: Multiply 2-digits by
2-digits.

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LO: **Multiply** 2-digits by 2-digits.

Success Criteria

I can use my knowledge of **exchanging** and **place value** to understand the **formal short multiplication** method.

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1. $5 \times 3 = 15$

↓ 10 times ↓

2. $50 \times 3 = 150$

3. $5 \times 30 = 150$

4. $2 \times 40 = 80$

↓ ↓ 10 times

5. $2 \times 400 = 800$

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Let's work out:

$$22 \times 13 = 286$$

	H	T	O
		2	2
x		1	3
		6	6
	2	2	0
	2	8	6

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Now you try:

$$34 \times 12 = 408$$

	H	T	O
		3	4
		1	2
		6	8
	3	4	0
	4	0	8
1			

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Let's try another:

$$45 \times 15 = 675$$

	H	T	O
		4	5
×		1	5
<hr/>			
	2	2	5
	4	5	0
<hr/>			
	6	7	5

~~2~~

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Now you try:

$$54 \times 32 = 1,728$$

	H	T	O
		5	4
x		3	2
	1	0	8
1	6	2	0
	1	7	2
			8

~~1~~

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Let's look at yesterday's calculation:

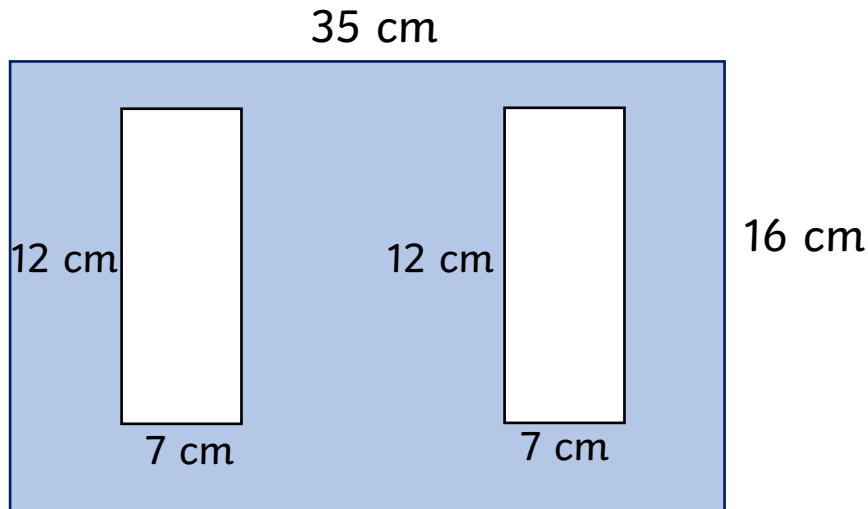
$$56 \times 17 = 952$$

	H	T	O
		5	6
×		1	7
<hr/>			
	3	9	2
	5	6	0
<hr/>			
	9	5	2
	1	4	

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Tommy wants to find the area of the blue part of the rectangle. How can he do this?



Work out the area of the blue rectangle first:

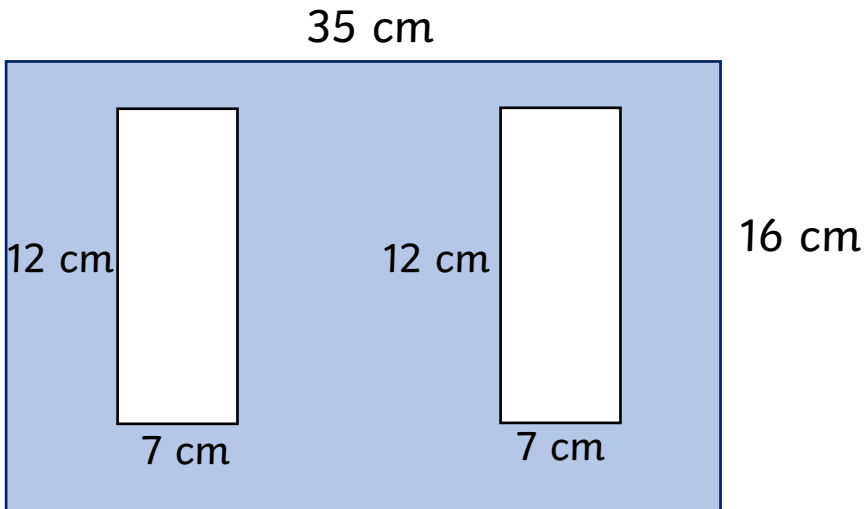
$$35 \times 16 = 560\text{cm}^2$$

	H	T	O
		3	5
		1	6
×			
	2	1	0
		3	
+	3	5	0
	5	6	0

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Tommy wants to find the area of the blue part of the rectangle. How can he do this?



Next work out the area of the white rectangles:

$$12 \times 7 = 84\text{cm}^2$$

$$84 \times 2 = 168\text{cm}^2$$

Now take the area of the white rectangles away from the area of the blue rectangle:

$$560\text{cm}^2 - 168\text{cm}^2 = 392\text{cm}^2$$

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LO: Multiply 2-digits by 2-digits.

Amir has multiplied 47 by 36



		4	7
×		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?

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Tommy says,



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

Do you agree?
Explain your answer.

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Independent work

1. Complete the worksheet.
2. Have a go at the extension activities.
3. Write a self-assessment.

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Extension:

Complete the calculation to work out 23×14

		2	3	
x		1	4	
		9	2	(23×4)
	2	3	0	(23×10)

Use this method to calculate:

34×26 58×15 72×35

Complete to solve the calculation.

		4	6	
x		2	7	
	3	2	2	($_ \times _$)
	9	2	0	($_ \times _$)

Use this method to calculate:

27×39 46×55 94×49

Calculate:

38×12

39×12

38×11

What's the same? What's different?

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LO: **Multiply** 2-digits by 2-digits.

Use your **purple pen**:

Answer the following questions:

1. Why is the **zero** important in multiplication?
2. If we know what 38×12 is equal to, how else could we work out 39×12 ?