

WA5MNACN3

Calculating with number

Core + Challenge

NAPLAN-style

Multiplying by One and Two Digits

I can multiply by one- and two-digit numbers using arrays, area models and partitioning.

Name: _____ Date: _____ Score: _____ / 56

Key idea

Partition (split) a number into hundreds, tens and ones. Multiply each part, then **add** the parts.

An **array** or an **area model** shows the parts. $6 \times 23 = 6 \times 20 + 6 \times 3 = 120 + 18 = 138$.

For a two-digit number times a two-digit number, split **both** numbers. There are **four** parts to add.

Example: $18 \times 25 = 10 \times 20 + 10 \times 5 + 8 \times 20 + 8 \times 5 = 200 + 50 + 160 + 40 = 450$.

$$6 \times 23 = 120 + 18 = 138$$

	20	3
6	120	18

$$18 \times 25 = 200 + 50 + 160 + 40 = 450$$

	20	5
10	200	50
8	160	40

A

Warm up *split, complete and multiply*

/ 16 marks

Draw a line to split each array after 10 columns. Write the two parts and the answer. 1 mark each.

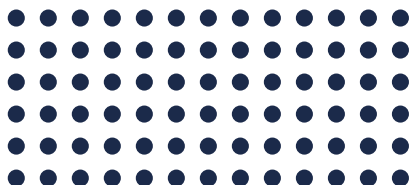
1 $3 \times 14 = \underline{\quad} + \underline{\quad} = \underline{\quad}$



2 $4 \times 12 = \underline{\quad} + \underline{\quad} = \underline{\quad}$



3 $6 \times 13 = \underline{\quad} + \underline{\quad} = \underline{\quad}$



4 $5 \times 16 = \underline{\quad} + \underline{\quad} = \underline{\quad}$



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Complete the area model. Then write the answer. 1 mark each.

5 $7 \times 36 =$ _____

	30	6
7		

6 $4 \times 158 =$ _____

	100	50	8
4			

7 $8 \times 205 =$ _____

	200	5
8		

8 $6 \times 243 =$ _____

	200	40	3
6			

Complete the area model. Add the four parts. 1 mark each.

9 $12 \times 23 =$ _____

	20	3
10		
2		

10 $15 \times 14 =$ _____

	10	4
10		
5		

11 $21 \times 32 =$ _____

	30	2
20		
1		

12 $24 \times 13 =$ _____

	10	3
20		
4		

Use a mental strategy. Write the answer. 1 mark each.

13 $36 \times 20 =$ _____

14 $4 \times 125 =$ _____

15 $99 \times 6 =$ _____

16 $25 \times 16 =$ _____

B Practise *use the skill*

/ 21 marks

- 1 A Transperth bus holds **57** passengers. How many passengers can **8** full buses carry? Label and complete the area model. [2 marks]

Answer: _____

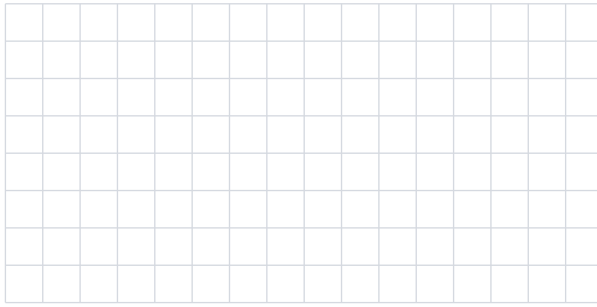
- 2 At a Kings Park concert there are **16** rows of **24** chairs. **Estimate** first. Then label and complete the area model to find the **exact** number of chairs. [3 marks]

Estimate: _____

Exact: _____

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- 3 On the grid, shade a rectangle **6** squares tall and **14** squares long. Draw a line to split it into 6×10 and 6×4 . Use it to find 6×14 . [2 marks]



Answer: _____

- 4 Use **partitioning** to find 6×427 . Fill in the gaps. [2 marks]

$$6 \times 427 = 6 \times \underline{\hspace{2cm}} + 6 \times \underline{\hspace{2cm}} + 6 \times \underline{\hspace{2cm}}$$

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

- 5 Eggs at Coles come in cartons of **12**. Complete the table. [3 marks]

Cartons	Eggs
15	
18	
	576

- 6 Circle the calculation that is **equal** to 34×26 . Then work out 34×26 . [2 marks]

$30 \times 20 + 4 \times 6$

$34 \times 20 + 34 \times 6$

$34 \times 2 + 34 \times 6$

$30 \times 26 + 4$

Answer: _____

- 7 Draw a line to join each multiplication to its answer. [2 marks]

14×12

176

16×11

180

13×13

168

15×12

169

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- 8 This area model shows a two-digit number times a two-digit number. Each number was split into **tens** and **ones**. Write the missing lengths. What is the multiplication, and what is its answer? [3 marks]

	600	80
150	20	

Answer: _____

- 9 Bike hire on Rottnest Island costs \$29 per bike each day. A family of 4 hires a bike each for 3 days. What is the total cost? [2 marks]

Answer: _____

C Think it through *explain your thinking*

/ 10 marks

- 1 Jai says $23 \times 14 = 20 \times 10 + 3 \times 4 = 212$. Do you agree with Jai? Use the area model to explain. [2 marks]

	20	3
10		
4		

- 2 True or false? $15 \times 24 = 30 \times 12$. Explain **without** working out both sides. [2 marks]

- 3 Always, sometimes or never true? “A two-digit number times a two-digit number gives a four-digit answer.” Circle one. Give examples. [2 marks]

Always

Sometimes

Never

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- 4 Which is the **odd one out**? Explain.

[2 marks]

6×40 12×20 8×30 5×50

- 5 Mia says, “To multiply by **20**, I multiply by 2 and then multiply by 10.” Use Mia’s method to find 37×20 . Explain why her method works.

[2 marks]

D Challenge *stretch yourself*

/ 9 marks

- 1 Use the digits **2, 3, 4** and **5** once each.

[3 marks]

a) Make the **largest** answer for $\square\square \times \square\square$.

b) Make the **largest** answer for $\square\square\square \times \square$.

c) Which of your two answers is bigger?

Answer: _____

- 2 The missing digits can be different. $\square 6 \times 3 = 2\square 8$ Find **all** the possible answers. Explain how you know you have them all.

[3 marks]

Answer: _____

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- 3 A school hall has **18** rows of **24** chairs. **350** tickets are sold for the concert. **a)** [3 marks]
How many chairs are empty? **b)** **4** more rows of 24 chairs are added. Can the school sell **100** more tickets? Explain.

Answer: _____

How did I go?Warm up ____ / 16 Practise ____ / 21 Think it through ____ / 10 Challenge ____ / 9 **Total ____ / 56**Want help with Year 5 maths? Our tutors make it click. **Book a free trial class at [edulift.com.au](https://www.edulift.com.au)**