Multiply 3 Digits by 2 Digits

1a. Use the fully expanded method to complete the calculation below.

```
    3 2 1
x     3 1
```
(1 x 1)
(1 x 20)
(1 x 300)
(30 x 1)
(30 x 20)
(30 x 300)
Total

321 x 31 = ☐

2a. Complete the calculations below.

A.
```
    2 0 3
x     3 2
```
(2 x 3)
(2 x 0)
(2 x 200)
(30 x 3)
(30 x 0)
(30 x 200)
Total

B.
```
    3 1 4
x     2 1
```
(1 x 4)
(1 x 10)
(1 x 300)
(20 x 4)
(20 x 10)
(20 x 300)
Total

Which has the larger answer?

3a. Elise says,

My tablecloth is twice as big as the table.

81cm

234cm

```
    2 3 4
x     8 1
```
(1 x 4)
(1 x 30)
(1 x 200)
(80 x 4)
(80 x 30)
(80 x 200)
Total

What is the area of her tablecloth?

Multiply 3 Digits by 2 Digits

1b. Use the fully expanded method to complete the calculation below.

```
    3 0 4
x     2 2
```
(2 x 4)
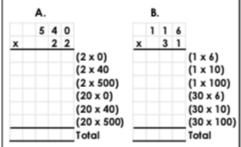(2 x 0)
(2 x 300)
(20 x 4)
(20 x 0)
(20 x 300)
Total

304 x 22 = ☐

2b. Complete the calculations below.

A.
```
    5 4 0
x     2 2
```
(2 x 0)
(2 x 40)
(2 x 500)
(20 x 0)
(20 x 40)
(20 x 500)
Total

B.
```
    1 1 6
x     3 1
```
(1 x 6)
(1 x 10)
(1 x 100)
(30 x 6)
(30 x 10)
(30 x 100)
Total

Which has the larger answer?

3b. Rehan says,

My wall space is twice as big as the notice board.

63cm

142cm

```
    1 4 2
x     6 3
```
(3 x 2)
(3 x 40)
(3 x 100)
(60 x 2)
(60 x 40)
(60 x 100)
Total

What is the area of his wall space?

Multiply 3 Digits by 2 Digits

1a. Omar and Melissa are working on the same calculation. They get different answers.

Omar
```
    3 0 2
x     2 1
        2  (1 x 2)
        0  (1 x 0)
    3 0 0  (1 x 300)
      4 0  (20 x 2)
        0  (20 x 0)
  6 0 0 0  (20 x 300)
  6 3 4 2
```

Melissa
```
    3 0 2
x     2 1
        2  (1 x 2)
        1  (1 x 0)
    3 0 0  (1 x 300)
      4 0  (20 x 2)
      2 0  (20 x 0)
  6 0 0 0  (20 x 300)
  6 3 6 3
```

Who is correct?

2a. Complete the calculations so that calculation B is less than calculation A.

A.
```
    4 2 2
x     1 2
```
(2 x 2)
(2 x 20)
(2 x 400)
(10 x 2)
(10 x 20)
(10 x 400)

B.
```
  ☐ ☐ ☐
x     1 2
```

3a. Harold is painting one side of the rabbit hutch. One tin covers an area of 5,000cm². The hutch is 130cm x 61cm.

```
    1 3 0
x     6 1
```
(1 x 0)
(1 x 30)
(1 x 100)
(60 x 0)
(60 x 30)
(60 x 100)

He thinks he needs to buy 2 tins. Is he correct? Explain your answer.

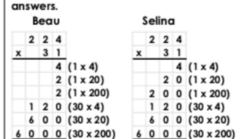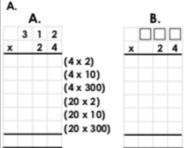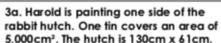
Multiply 3 Digits by 2 Digits

1b. Beau and Selina are working on the same calculation. They get different answers.

Beau
```
    2 2 4
x     3 1
        4  (1 x 4)
        2  (1 x 20)
        2  (1 x 200)
    1 2 0  (30 x 4)
    6 0 0  (30 x 20)
  6 0 0 0  (30 x 200)
  6 7 2 8
```

Selina
```
    2 2 4
x     3 1
        4  (1 x 4)
      2 0  (1 x 20)
    2 0 0  (1 x 200)
    1 2 0  (30 x 4)
    6 0 0  (30 x 20)
  6 0 0 0  (30 x 200)
  6 9 4 4
```

Who is correct?

2b. Complete the calculations so that calculation B is greater than calculation A.

A.
```
    3 1 2
x     2 4
```
(4 x 2)
(4 x 10)
(4 x 300)
(20 x 2)
(20 x 10)
(20 x 300)

B.
```
  ☐ ☐ ☐
x     2 4
```

3b. Jan is waterproofing her decking. Each bottle covers an area of 3,000cm². The decking is 205cm x 42cm.

```
    2 0 5
x     4 2
```
(2 x 5)
(2 x 0)
(2 x 200)
(40 x 5)
(40 x 0)
(40 x 200)

She thinks she needs to buy 2 bottles. Is she correct? Explain your answer.

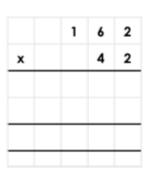## Multiply 3 Digits by 2 Digits

4a. Use the formal multiplication method to complete the calculation below.

		1	6	2
x			4	2

162 x 42 = ☐

5a. Complete the calculations below.

A.

	1	0	1
x		4	2

B.

	3	1	6
x		1	2

Which has the larger answer?

6a. Michael says,

"My curtains are twice as big as the window."

63cm / 122cm

	1	2	2
x		6	3

What is the area of his curtains?

Multiply 3 Digits by 2 Digits

4b. Use the formal multiplication method to complete the calculation below.

	3	4	5
x		3	4

345 x 34 = ☐

5b. Complete the calculations below.

A.

	2	1	6
x		3	2

B.

	2	0	7
x		3	5

Which has the larger answer?

6b. Aleema says,

"My room is twice the size of the rug."

245cm / 46cm

	2	4	5
x		4	6

What is the area of her room?

Multiply 3 Digits by 2 Digits

4a. Molly and Jess are working on the same calculation. They get different answers.

Molly

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

Jess

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

Who is correct?

5a. Complete the calculations so that calculation B is less than calculation A.

A.

	5	1	0
x		1	6

B.

	☐	☐	☐
x		☐	☐

6a. Derek is painting the ceiling of the local church. A tin of paint covers 2,000m². The ceiling is 142m x 54m.

x

He thinks he needs to buy 7 tins of paint. Is he correct? Explain your answer.

Multiply 3 Digits by 2 Digits

4b. Chen and Jamie are working on the same calculation. They get different answers.

Chen

	4	3	4
x		2	5
2	1,7,0		
8	6	8	0
1	0	8	5	0

Jamie

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

Who is correct?

5b. Complete the calculations so that calculation B is greater than calculation A.

A.

	4	6	2
x		3	2

B.

	☐	☐	☐
x		☐	☐

6b. James is filling the sandpit with sand. One bag of sand covers an area of 1,000cm². The sandpit is 215cm x 95cm.

x

He thinks he needs to buy 21 bags of sand. Is he correct? Explain your answer.

Multiply 3 Digits by 2 Digits

7a. Use the formal multiplication method to complete the calculation below.

```
      3 □ 6
  ×     4 □
  ─────────
      □ 1,2
  □ 4,□ 4 □
  ─────────
  1 4 9 5 2
```

3 □ 6 × 4 □ = 14,952

8a. Complete the calculations below.

A.
```
    1 □ 3
  ×   5 1
  ───────
    □ 2 3
  6 □ □ 5 □
```

B.
```
    3 1 2
  ×   2 □
  ───────
  1 8 7 □
  6 2 □ □
```

Which has the larger answer?

9a. Saura says,

The school field is twice as big as the football pitch.

5 □ m

109m

```
    1 0 9
  ×   5 □
  ───────
  □ □ 7 □
  □ 4 □ □
```

What is the area of the field?

Multiply 3 Digits by 2 Digits

7b. Use the formal multiplication method to complete the calculation below.

```
      4 8 □
  ×   □ 3
  ─────────
    1 □ 4 6
  □ 4 □ 0 □
  ─────────
  2 5 5 4 6
```

48 □ × □ 3 = 25,546

8b. Complete the calculations below.

A.
```
    □ 1 7
  ×   1 4
  ───────
  2 □ □ □
  6 1 □ □
```

B.
```
    5 3 1
  ×     □ 9
  ───────
  □ □ □ □
  5 □ 1 □
```

Which has the larger answer?

9b. Harees says,

My rug is twice the size of my bed.

92cm

1 □ 9cm

```
    1 □ 9
  ×   9 2
  ───────
  3 □ □ □
  7 0 □ □
```
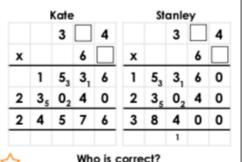
What is the area of his rug?

Multiply 3 Digits by 2 Digits

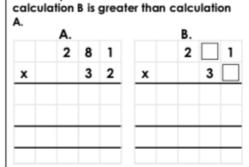**7a.** Atifa and Jacob are working on the same calculation. They get different answers.

Atifa
```
    4 2 □
  ×   □ 3
  ───────
  1 2 6 9
  1 6 8 2 0
  ───────
  1 7 0 8 9
```

Jacob
```
    4 2 □
  ×   □ 3
  ───────
  1 2 6 9
  1 6 9 2 0
  ───────
  1 8 1 8 9
```

Who is correct?

8a. Complete the calculations so that calculation B is greater than calculation A.

A.
```
    2 8 1
  ×   3 2
```

B.
```
    2 □ 1
  ×   3 □
```

9a. Carol the caretaker is varnishing the hall. 1 tin of varnish covers 100m². The length of the hall is 108m and the width of the hall is between 40m and 44m. School has ordered 47 tins of varnish.

```
  ×
```

Will there be enough varnish? Explain your answer.

Multiply 3 Digits by 2 Digits

7b. Kate and Stanley are working on the same calculation. They get different answers.
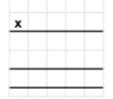
Kate
```
    3 □ 4
  ×   6 □
  ───────
  1 5 3 6
  2 3 0 4 0
  ───────
  2 4 5 7 6
```

Stanley
```
    3 □ 4
  ×   6 □
  ───────
  1 5 3 6 0
  2 3 0 4 0
  ───────
  3 8 4 0 0
```

Who is correct?

8b. Complete the calculations so that calculation B is less than calculation A.

A.
```
    7 1 3
  ×   2 4
```

B.
```
    7 1 □
  ×   2 □
```

9b. Liam the gardener is sowing grass seed to cover a path. 1 packet covers 1,000cm². The length of the path is 682cm the width is between 70cm and 74cm. He has ordered 50 packets.

```
  ×
```

Will there be enough grass seed? Explain your answer.

Varied Fluency
Multiply 3 Digits by 2 Digits

Developing
1a. 9,951
2a. A. 6,496; B. 6,594.
The larger answer is B.
3a. 37,908cm²

Expected
4a. 6,804
5a. A. 4,242; B. 3,792.
The larger answer is A.
6a. 15,372cm².

Greater Depth
7a. 3<u>5</u>6 x 4<u>2</u> = 14,952
8a. A. 1<u>2</u>3 x 51 = 6,273;
B. 312 x 2<u>6</u> = 8,112. The larger answer is B.
9a. 12,644cm².

Varied Fluency
Multiply 3 Digits by 2 Digits

Developing
1b. 6,688
2b. A. 11,880; B. 3,596.
The larger answer is A.
3b. 17,892cm²

Expected
4b. 11,730
5b. A. 6,912; B. 7,245.
The larger answer is B.
6b. False. The area of the window is 11,270cm².

Greater Depth
7b. 48<u>2</u> x 5<u>3</u> = 25,546
8b. A. <u>6</u>17 x 14 = 8,638;
B. 531 x 1<u>9</u> = 10,089. The larger answer is B.
9b. 34,776cm².

Reasoning and Problem Solving
Multiply 3 Digits by 2 Digits

Developing
1a. Omar is correct. 302 x 21 = 6,342
2a. Various possible answers where the total is less than 5,064, for example:
332 x 12 = 3,984
3a. Harold is correct. 130cm x 61cm = 7,930cm² so Derek will need to buy 2 tins.

Expected
4a. Jess is correct. 312 x 14 = 4,368
5a. Various possible answers where the total is less than 8,160, for example:
154 x 24 = 3,696
6a. Derek is incorrect. 142m x 54m = 7,668m² so he will need to buy 4 tins.

Greater Depth
7a. Jacob is correct. 42<u>3</u> x <u>4</u>3 = 18,189
8a. Various possible answers where the total is greater than 8,992, for example:
291 x 33 = 9,603
9a. Carol will have enough varnish if the width of the hall is 43m or less as 108m x 43m = 4,644m² but she will not have enough if the width of the hall is 44m as 108m x 44m = 4,752m².

Reasoning and Problem Solving
Multiply 3 Digits by 2 Digits

Developing
1b. Selina is correct. 224 x 31 = 6,944
2b. Various possible answers where the total is greater than 7,488, for example:
322 x 24 = 7,728.
3b. Jan is incorrect. 205cm x 42cm = 8,610cm² so she will need to buy 3 bottles.

Expected
4b. Chen is correct. 434 x 25 = 10,850
5b. Various possible answers where the total is greater than 14,784, for example:
464 x 43 = 19,952
6b. James is correct. 215cm x 95cm = 20,425cm² so he will need to buy 21 bags of sand.

Greater Depth
7b. Kate is correct. 3<u>8</u>4 x 6<u>4</u> = 24,576
8b. Various possible answers where the total is less than 17,112, for example:
711 x 22 = 15,642
9b. Liam will have enough grass seed if the width of the path is 73cm or less as 682cm x 73cm = 49,786m² but he will not have enough if the width of the path is 74cm as 682cm x 74cm = 50,468cm².