Multiply 3 Digits by 2 Digits

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

Omar	Melissa

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?

PS

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

Beau	Selina

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?

PS

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
```

PS

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
```

PS

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.

R

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.

R

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Reasoning and Problem Solving – Multiply 3 Digits by 2 Digits – Year 5 Developing

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?

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

(small 1, small 2 on the 2 1 7 0 row; small 1 below the total)

Jamie

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

(small 1, small 2 on the 2 0 5 0 row; small 1 below the total)

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		☐	☐

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

A.

	4	6	2
x		3	2

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.

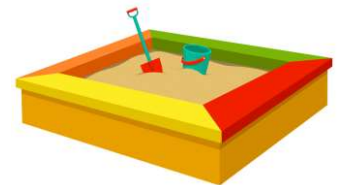|		
x		

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

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.

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Reasoning and Problem Solving – Multiply 3 Digits by 2 Digits – Year 5 Expected

Multiply 3 Digits by 2 Digits

Multiply 3 Digits by 2 Digits

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

Atifa

		4	2	☐
x			☐	3
	1	2	6	9
1	6	8$_1$	2	0
1	7	0	8	9
			1	

Jacob

		4	2	☐
x			☐	3
	1	2	6	9
1	6	9$_1$	2	0
1	8	1	8	9
			1	

Who is correct?

7b. Kate and Stanley are working on the same calculation. They get different answers.

Kate

		3	☐	4
x			6	☐
	1	5$_3$	3$_1$	6
2	3$_5$	0$_2$	4	0
2	4	5	7	6

Stanley

		3	☐	4
x			6	☐
1	5$_3$	3$_1$	6	0
2	3$_5$	0$_2$	4	0
3	8	4	0	0
			1	

Who is correct?

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

A.

		2	8	1
x			3	2

B.

		2	☐	1
x			3	☐

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

A.

		7	1	3
x			2	4

B.

		7	1	☐
x			2	☐

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.

x _____

Will there be enough varnish? Explain your answer.

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.

x _____

Will there be enough grass seed? Explain your answer.

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Reasoning and Problem Solving – Multiply 3 Digits by 2 Digits – Year 5 Greater Depth