

Discussion Problems

Step 4: Multiply 3 Digits by 2 Digits

National Curriculum Objectives:

Mathematics Year 5: (5C6a) [Multiply and divide numbers mentally drawing upon known facts](#)

Mathematics Year 5: (5C7a) [Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers](#)

About this resource:

This resource has been designed for pupils who understand the concepts within [this step](#). It provides pupils with more opportunities to enhance their reasoning and problem solving skills through more challenging problems. Pupils can work in pairs or small groups to discuss with each other about how best to tackle the problem, as there is often more than one answer or more than one way to work through the problem.

There may be various answers for each problem. Where this is the case, we have provided one example answer to guide discussion.

We recommend self or peer marking using the answer page provided to promote discussion and self-correction.

More [Year 5 Multiplication and Division](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

Multiply 3 Digits by 2 Digits

1. The school council are organising a disco and want to advertise the event on a banner on the school fence, which has an area of $30,000\text{cm}^2$. The headteacher has told them that they need to leave 75cm free on one side for some road safety posters. They are trying to decide which banner is the largest they can buy. What could the dimensions of the fence be?

Option A

Dimensions: $225\text{cm} \times 45\text{cm}$

Option B

Dimensions: $250\text{cm} \times 55\text{cm}$

Option C

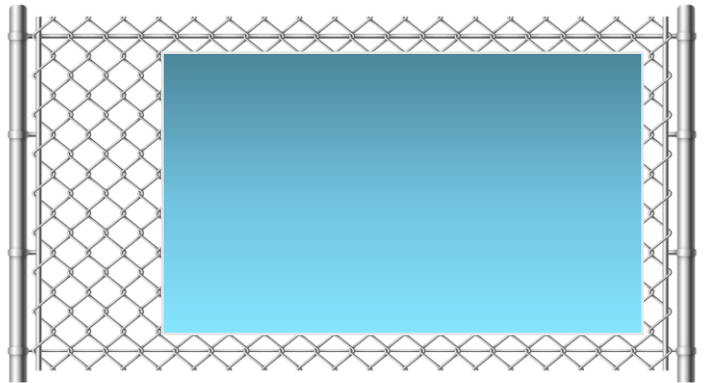
Dimensions: $275\text{cm} \times 65\text{cm}$

Option D

Dimensions: $325\text{cm} \times 75\text{cm}$

Option E

Dimensions: $385\text{cm} \times 85\text{cm}$



Which is the largest banner they can buy? Which other options can they buy?

DP

2. Arrange the digit cards to make a calculation where the answer matches all four statements below.

1

3

4

2

6

8

x

The calculation equals a 5-digit number.

The digit total of the answer is less than 19.

One of the digits in the answer is 0.

The answer is divisible by 4.

DP

Multiply 3 Digits by 2 Digits

1. The school council are organising a disco and want to advertise the event on a banner on the school fence, which has an area of $30,000\text{cm}^2$. The headteacher has told them that they need to leave 75cm free on one side for some road safety posters. They are trying to decide which banner is the largest they can buy. What could the dimensions of the fence be? **Various answers, for example: $300\text{cm} \times 100\text{cm}$; $400\text{cm} \times 75\text{cm}$; $500\text{cm} \times 60\text{cm}$**

Option A

Dimensions: $225\text{cm} \times 45\text{cm}$

Option B

Dimensions: $250\text{cm} \times 55\text{cm}$

Option C

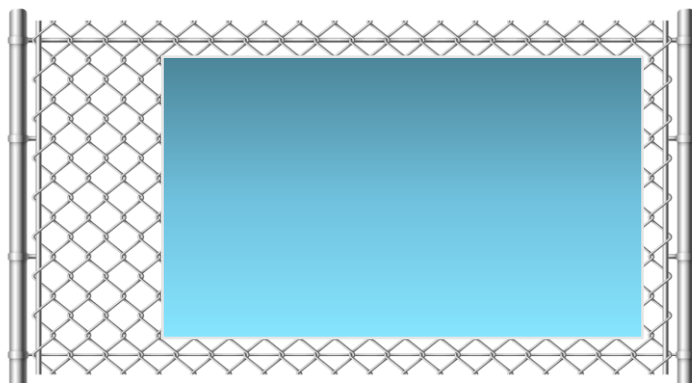
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Option D

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Option E

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Which is the largest banner they can buy? Which other options can they buy?

Various answers, for example:

If fence is $300\text{cm} \times 100\text{cm}$, option A is the only one that will fit. If fence is $400\text{cm} \times 75\text{cm}$, options A, B, C and D will fit (D is the largest). If fence is $500\text{cm} \times 60\text{cm}$, options A and B will fit (B is the largest). If fence is $600 \times 50\text{cm}$, only option A will fit.

DP

2. Arrange the digit cards to make a calculation where the answer matches all four statements below.

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

The calculation equals a 5-digit number.

The digit total of the answer is less than 19.

One of the digits in the answer is 0.

The answer is divisible by 4.

Various possible answers, for example: $418 \times 36 = 15,048$.

DP