

Max's Masterful Multiplication Challenge

Learning objective: To develop fluency and precision in long multiplication methods for multiplying multi-digit numbers by two-digit numbers.

Use these flashcards to test your knowledge of long multiplication techniques and terminology. Work through the challenges to help Max the monkey solve his jungle puzzles!

What is the 'multiplicand' in the calculation 45×12 ?

The multiplicand is 45, which is the number being multiplied.

When multiplying by the tens digit in long multiplication (e.g., the 1 in 12), why must we place a zero in the ones column?

Because we are multiplying by a multiple of ten, so the value is ten times larger; the zero acts as a place value holder.

Calculate: 24×13

312

If Max buys 15 bags of bananas costing £24 each, what is the total cost?

£360

Explain why we use 'regrouping' (carrying) when the product of a column exceeds 9.

We regroup because each column can only hold a single digit (0-9). Any value of ten or more must be moved to the next place value column to maintain the correct total.

Calculate: 56×22

1,232

Compare and contrast the grid method of multiplication with the standard long multiplication method.

Both methods use partitioning to break numbers into smaller, manageable parts. The grid method is visual and helps understand place value, whereas standard long multiplication is a more compact, efficient algorithm.

Justify your answer: Is 30×40 the same as $3 \times 4 \times 10$?

No. $30 \times 40 = 1,200$, whereas $3 \times 4 \times 10 = 120$. To be equivalent, it would need to be $3 \times 4 \times 100$.

What might happen if you forget to add the 'carried' digits during your addition step?

You would arrive at an incorrect total because the carried digits represent values (tens, hundreds) that contribute to the final product.

Calculate: 73×19

1,387

If a box of 12 pencils costs £14, how much would 25 boxes cost?

£350

Max has 48 groups of 26 items. Estimate the product first, then calculate the exact answer.

Estimate: $50 \times 25 = 1,250$. Exact answer: 1,248.