

2.67 Times .43show Work

Understanding the Concept of 2.67 Times .43 Show Work

2.67 Times .43 Show Work is a common phrase encountered in math education, especially when students are practicing multiplication and learning how to demonstrate their problem-solving process. Whether you're a student aiming to improve your math skills or a teacher seeking effective ways to teach multiplication, understanding how to work through such problems step-by-step is essential. This article provides a comprehensive guide to calculating 2.67 times 0.43, breaking down each step clearly, and explaining the underlying math concepts involved.

Why Is Showing Work Important in Math?

Before diving into the specific problem, it's vital to understand why showing work matters:

- Clarifies the Problem-Solving Process: Demonstrating each step helps students track their reasoning and identify errors.
- Enhances Understanding: Breaking down calculations deepens comprehension of mathematical operations.
- Prepares for More Complex Problems: Mastering basic steps builds a foundation for advanced topics.
- Facilitates Grading and Feedback: Teachers can assess students' thought processes more effectively.

Now, let's explore how to calculate 2.67 multiplied by 0.43, with detailed work shown at each step.

Step-by-Step Work for 2.67×0.43

Calculating 2.67 times 0.43 involves multiplying two decimal numbers. The general approach includes converting these decimals into whole numbers, performing multiplication, and then adjusting for the decimal places.

Step 1: Remove the Decimals by Converting to Whole

Numbers

To simplify multiplication, convert the decimal numbers into whole numbers:

- 2.67 has two decimal places.
- 0.43 has two decimal places.

Therefore, multiply both numbers by 100 to eliminate the decimals:

- $2.67 \times 100 = 267$
- $0.43 \times 100 = 43$

Now, the problem becomes multiplying 267 by 43.

Step 2: Multiply the Whole Numbers

Set up the multiplication:

$$\begin{array}{r} \\ 267 \\ \times 43 \\ \hline \end{array}$$

Multiply 267 by 3 (the units digit of 43):

- $267 \times 3:$
- $267 \times 3 = 801$

Next, multiply 267 by 4 (the tens digit of 43), but since it's in the tens place, add a zero at the end:

- $267 \times 40:$
- $267 \times 40 = 10,680$

Now, add the two partial products:

$$\begin{array}{r} \\ 801 \\ 10,680 \\ \hline 11,481 \\ \end{array}$$

Therefore, $267 \times 43 = 11,481$.

Step 3: Adjust for the Decimal Places

Recall that both original numbers had two decimal places each. The total number of decimal places in the product must equal the sum of decimal places from both factors:

- 2.67 has 2 decimal places.
- 0.43 has 2 decimal places.

Total decimal places = $2 + 2 = 4$.

Thus, after multiplying, place the decimal point four places from the right in the product:

- 11,481 → Insert decimal point four places from the right:
- Moving four places left: 1.1481

Final answer: 1.1481

Summary of the Calculation

Here's a quick recap of the steps:

1. Convert decimals to whole numbers:
 - $2.67 \times 100 = 267$
 - $0.43 \times 100 = 43$
2. Multiply the whole numbers:
 - $267 \times 43 = 11,481$
3. Count total decimal places:
 - 2 in 2.67 + 2 in 0.43 = 4
4. Place decimal point in the product:
 - 11,481 → 1.1481

Answer: $2.67 \times 0.43 = 1.1481$

Additional Methods for Multiplying Decimals

While the above method is straightforward, there are alternative approaches to multiplying decimals:

Method 1: Using Standard Algorithm with Decimals

- Multiply the decimals directly as if they were whole numbers.
- Count decimal places and place the decimal point accordingly.

Method 2: Using Estimation

- Round numbers to simplify:
- $2.67 \approx 3$
- $0.43 \approx 0.4$
- Multiply: $3 \times 0.4 = 1.2$
- This gives an approximate answer close to the exact result (1.1481). Use for quick estimation.

Common Mistakes to Avoid

When working with decimal multiplication, be cautious of:

- Incorrect decimal placement: Failing to count decimal places correctly leads to wrong answers.
- Omitting zeroes: Forgetting to include trailing zeroes in intermediate steps can cause miscalculations.
- Misaligning partial products: When multiplying multi-digit numbers, ensure proper alignment of partial results.
- Ignoring decimal places after multiplication: Always adjust the final answer based on the total number of decimal places.

Practice Problems to Master Decimal Multiplication

To strengthen your skills, try solving these problems:

1. Calculate 4.56×0.78
2. Find the product of 1.2 and 0.05
3. Multiply 3.1415 by 2.718
4. Determine 0.009×0.0034

For each, follow the step-by-step approach outlined above to build confidence.

Conclusion: Mastering 2.67 Times .43 Show Work

Understanding how to multiply decimals like 2.67 by 0.43 and show work clearly is a fundamental skill in mathematics. By converting decimals to whole numbers, performing multiplication, and then adjusting the decimal point, students can accurately solve these problems while developing a strong grasp of decimal operations. Remember, consistently showing work not only helps in verifying answers but also enhances overall mathematical proficiency. With practice and attention to detail, you'll be comfortable tackling similar problems with confidence and precision.

Frequently Asked Questions

What is the calculation for 2.67 times 0.43?

To calculate 2.67 times 0.43, multiply the two numbers: $2.67 \times 0.43 = 1.1481$.

How do I show work for multiplying 2.67 by 0.43?

First, ignore the decimals and multiply 267 by 43: $267 \times 43 = 11,481$. Since 2.67 has 2 decimal places and 0.43 has 2 decimal places, total decimal places are 4. Place the decimal point four places from the right in 11,481 to get 1.1481.

What is the significance of placing the decimal in the product?

Placing the decimal correctly accounts for the decimal places in the original numbers. Since 2.67 has 2 decimal places and 0.43 has 2 decimal places, the product must have 4 decimal places, resulting in 1.1481.

Can I use a calculator to verify 2.67×0.43 ?

Yes, using a calculator is a quick way to verify that 2.67 multiplied by 0.43 equals 1.1481.

What are some common mistakes when multiplying decimals like 2.67 and 0.43?

Common mistakes include forgetting to account for decimal places, misplacing the decimal point after multiplication, or miscalculating the product of the whole numbers before adjusting for decimals.

How can I estimate the answer for 2.67 times 0.43?

You can round 2.67 to 3 and 0.43 to 0.4, then multiply $3 \times 0.4 = 1.2$. So, the actual answer should be close to 1.2, which aligns with the precise calculation of 1.1481.

Is 2.67 times 0.43 a typical problem in math practice?

Yes, multiplying decimals like 2.67 by 0.43 is common in math practice, especially in topics involving decimal multiplication and real-world applications like finance and measurements.

How do decimals affect multiplication compared to whole numbers?

Decimals require careful attention to decimal places. After multiplying, you must correctly place the decimal point in the product based on the total number of decimal places in the factors.

What is the final answer for 2.67 times 0.43?

The final answer is 1.1481, obtained by multiplying 267 by 43 to get 11,481 and placing the decimal four places from the right.

Additional Resources

2.67 Times .43 Show Work: An In-depth Investigation

Mathematics often challenges learners and educators alike, especially when it comes to understanding and demonstrating the processes behind calculations. Among the many topics that require clarity and transparency, multiplying decimals and illustrating the work involved is crucial for developing math proficiency. In this review, we delve into the concept of "2.67 Times .43 Show Work," exploring its significance, methods for solving, common misconceptions, and best practices for teaching and understanding such calculations.

Understanding the Importance of Showing Work in Decimal Multiplication

Mathematics education emphasizes not just obtaining the correct answer but also understanding how that answer was reached. Showing work serves multiple

purposes:

- Demonstrates comprehension: It shows whether the student understands the multiplication process.
- Facilitates error checking: It allows both students and teachers to identify where mistakes may have occurred.
- Builds problem-solving skills: By explicitly writing steps, learners can develop strategies for tackling similar problems.
- Prepares for advanced concepts: Mastery of basic multiplication with decimals sets the foundation for algebra, calculus, and applied mathematics.

When dealing with decimal multiplication such as 2.67×0.43 , demonstrating the process helps clarify how decimal placement impacts the calculation, preventing common errors like misaligning decimal points or miscounting decimal places.

Step-by-Step Breakdown of 2.67 Times 0.43 Show Work

Performing the multiplication involves a few key steps: ignoring the decimals initially, multiplying as whole numbers, then adjusting for decimal placement.

Step 1: Remove the Decimals

- Rewrite the numbers as whole numbers by eliminating the decimal points.

2.67 becomes 267

0.43 becomes 43

Step 2: Multiply the Whole Numbers

- Multiply 267 by 43:

...

267

× 43

801 (267 × 3)

10680 (267 × 40; note the zero placeholder)

11481
` ``

Work shown:

- Multiply 267 by 3:

$$3 \times 7 = 21 \text{ (write 1, carry 2)}$$

$$3 \times 6 = 18 + 2 = 20 \text{ (write 0, carry 2)}$$

$$3 \times 2 = 6 + 2 = 8 \text{ (write 8)}$$

Result: 801

- Multiply 267 by 40 (which is 4×10 , so multiply by 4 and then add a zero):

$$267 \times 4:$$

$$4 \times 7 = 28 \text{ (write 8, carry 2)}$$

$$4 \times 6 = 24 + 2 = 26 \text{ (write 6, carry 2)}$$

$$4 \times 2 = 8 + 2 = 10 \text{ (write 10)}$$

Result: 1068

Append a zero for the 40:

$$1068 \times 10 = 10680$$

Note: Since we are multiplying by 40, the partial product is 10680.

- Add the partial products:

` ``

801
+10680

11481
` ``

Step 3: Count Decimal Places

- The original numbers each have decimal places:

- 2.67 has 2 decimal places.

- 0.43 has 2 decimal places.

- Total decimal places in the product = $2 + 2 = 4$.

Step 4: Place the Decimal Point

- The raw multiplication result is 11,481.
- Place the decimal point 4 places from the right:

1.1481

Final answer: 1.1481

Alternative Methods and Visual Representations

While the traditional algorithm is effective, other methods can reinforce understanding, especially for visual learners.

Grid Method (Area Model)

- Break down 2.67 and 0.43 into parts:

$$2.67 = 2 + 0.6 + 0.07$$

$$0.43 = 0.4 + 0.03$$

- Multiply each component:

	0.4	0.03	
2	0.8	0.06	
0.6	0.24	0.018	
0.07	0.028	0.0021	

- Sum all partial products:

$$0.8 + 0.06 + 0.24 + 0.018 + 0.028 + 0.0021 = 1.1481$$

This visual method reinforces the place value understanding and decimal movement.

Common Mistakes and Misconceptions

Understanding where errors often occur helps educators and students approach decimal multiplication more carefully.

- Misaligning decimal points: Forgetting to count total decimal places and misplacing the decimal in the answer.
- Ignoring decimal zeros: Overlooking zeros after decimals, which can lead to incorrect partial products.
- Treating decimals as whole numbers: Failing to adjust for decimal placement after multiplication.
- Confusing partial products: Miscalculating intermediate steps, especially in the grid method.

To address these issues, emphasizing the importance of counting decimal places and explicit step-by-step work is essential.

Best Practices for Teaching and Demonstrating 2.67×0.43

Effective instruction involves multiple strategies:

- Explicitly show each step: As demonstrated above, breaking down the process helps students internalize the procedure.
- Use visual aids: Area models, number lines, or place value charts can clarify the multiplication process.
- Encourage estimation: Before exact calculation, approximate to check if the answer is reasonable (e.g., $2.67 \approx 3$, $0.43 \approx 0.4$; $3 \times 0.4 = 1.2$).
- Practice with various examples: Repetition with numbers of different decimal lengths reinforces understanding.
- Discuss decimal placement rules: Teach students how to count total decimal places and shift the decimal accordingly.
- Address misconceptions directly: Use miscalculation examples to highlight common errors and correct them.

Implications for Educational Materials and Review Sites

For review sites or educational publications, presenting clear, detailed solutions exemplifies best practices in math instruction. Including step-by-

step work, visual aids, and common pitfalls enhances learning and supports diverse learners.

Providing in-depth analyses of problems like "2.67 times 0.43 show work" not only clarifies the computational process but also emphasizes the importance of transparency in mathematical reasoning. As decimal operations are foundational, mastering these skills with proper demonstration ensures students build confidence and competence for more advanced topics.

Conclusion

The calculation of 2.67 Times .43 Show Work exemplifies the significance of detailed, transparent problem-solving in mathematics education. By breaking down the multiplication process into manageable steps—removing decimals, multiplying as whole numbers, counting decimal places, and placing the decimal correctly—learners develop both procedural fluency and conceptual understanding. Recognizing common mistakes and employing varied teaching strategies further solidifies this knowledge.

In the context of review sites, emphasizing clear demonstrations, visual representations, and troubleshooting guides enhances the value of educational content. Ultimately, mastering decimal multiplication through explicit work builds a foundation of confidence and precision crucial for mathematical success at all levels.

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