

What Is The First Step In Solving This Expression? $28 - 11 + 6 \cdot 3 + 5$ Thanks,

What Is The First Step In Solving This Expression? $28 - 11 + 6 \cdot 3 + 5$ Thanks,

When faced with a mathematical expression like $28 - 11 + 6 \cdot 3 + 5$ Thanks, it's essential to understand how to approach solving it systematically. The initial step involves analyzing the expression carefully to determine the operations involved and the order in which they should be performed. This process ensures that the calculation proceeds correctly, respecting the rules of arithmetic operations. Before diving into solving, clarifying any ambiguities—such as whether "6 3" indicates multiplication or a different operation—is crucial. Once understood, the first step becomes clear: identify the components and the order of operations. This article will guide you through the detailed process of solving this expression, emphasizing the importance of the initial step and how to execute it properly.

Understanding the Components of the Expression

Before deciding on the first step, it is vital to interpret the expression correctly. The given expression is:

$28 - 11 + 6 \cdot 3 + 5$ Thanks

At first glance, it appears to contain a mixture of numbers, subtraction, addition, and some ambiguous parts, notably "6 3" and "Thanks." Let's dissect these elements to understand what they might represent.

Breaking Down the Expression

- Numbers: 28, 11, 6, 3, 5
- Operators: subtraction (-), addition (+)
- Ambiguous parts:
 - "6 3" could imply multiplication (6×3) or simply be two separate numbers.
 - "Thanks" appears to be extraneous text, possibly a typo or an extra word not part of the mathematical expression.

Interpreting "6 3"

Given standard mathematical notation, two numbers written consecutively with no operator between them can be interpreted as:

- Multiplication: 6×3
- Concatenation: 63 (a two-digit number)

In mathematical expressions, multiplication is often implied when two numbers are written side by side in certain contexts, especially in algebra or in some programming languages. However, in basic arithmetic, explicit operators are preferred.

Likely interpretation: The expression is intended to include multiplication: 6×3 .

Clarifying the Expression

Assuming "6 3" means "6 multiplied by 3" and "Thanks" is extraneous, the expression simplifies to:

$$28 - 11 + (6 \times 3) + 5$$

This is a common form for arithmetic problems, and following the standard rules will lead to the correct solution.

Note: If "Thanks" is part of the expression, it might be a sign-off or irrelevant text, and can be ignored in the calculation.

Understanding Order of Operations

Before solving, it's crucial to recall the order of operations, often remembered by the acronym PEMDAS:

1. Parentheses
2. Exponents
3. Multiplication and Division (from left to right)
4. Addition and Subtraction (from left to right)

Applying this rule ensures consistency and correctness in calculations.

The First Step in Solving the Expression

Given the clarified expression:

$$28 - 11 + (6 \times 3) + 5$$

The first step in solving this expression is:

1. Identify and execute any operations that take precedence, specifically multiplication.

Why?

Because multiplication has higher precedence than addition and subtraction, it must be performed before these operations.

Executing the First Step: Multiplication

- Calculate 6×3 .

Calculation:

$$6 \times 3 = 18$$

Now, the expression becomes:

$$28 - 11 + 18 + 5$$

This step simplifies the original expression by replacing the multiplication part with its result.

Proceeding After the First Step

Once the multiplication is completed, the remaining operations are addition and subtraction, which are of equal precedence and are performed from left to right.

Remaining expression:

$$28 - 11 + 18 + 5$$

Next steps:

1. Perform $28 - 11$
2. Add the result to 18
3. Add 5 to the total

Summary of the Solving Process

To summarize, the process involves:

- Step 1: Recognize that "6 3" implies multiplication, so compute 6×3 .
- Step 2: Substitute the result into the original expression.
- Step 3: Simplify step-by-step following the order of operations.

Common Mistakes to Avoid

While solving such expressions, several errors can occur:

1. Ignoring Operator Precedence

- Performing addition before multiplication leads to incorrect results. Always perform multiplication/division before addition/subtraction.

2. Misinterpreting the Expression

- Assuming "6 3" is two separate numbers rather than multiplication can alter the calculation.

3. Overlooking Extraneous Text

- Discard words like "Thanks" unless explicitly part of the mathematical expression.

4. Neglecting Left-to-Right Rule

- For operations of equal precedence, execute from left to right.

Practical Tips for Solving Similar Expressions

- Carefully analyze the expression before starting calculations.
- Clarify ambiguous parts—are they multiplication, concatenation, or

something else?

- Follow PEMDAS/BODMAS strictly to maintain consistency.
- Break down complex expressions into smaller parts.
- Write intermediate steps to avoid mistakes.

Conclusion

The first step in solving the expression $28 - 11 + 6 \times 3 + 5$ —assuming "6 3" signifies multiplication—is to perform the multiplication 6×3 . This step is crucial because multiplication takes precedence over addition and subtraction in the order of operations. By executing this step first, the expression simplifies, paving the way for straightforward addition and subtraction. Recognizing the structure of the expression and applying the correct order of operations are fundamental skills in mathematics, ensuring accurate and efficient problem-solving. Whether dealing with simple arithmetic or more complex expressions, always start by identifying the highest precedence operations to set a solid foundation for the subsequent calculations.

Frequently Asked Questions

What is the first step in solving the expression $28 - 11 + 6 \times 3 + 5$?

The first step is to follow the order of operations (PEMDAS/BODMAS) and perform the multiplication before addition and subtraction. So, start with 6×3 .

Why is it important to identify multiplication first in the expression $28 - 11 + 6 \times 3 + 5$?

Multiplication has higher precedence than addition and subtraction, so performing it first ensures the correct calculation according to standard math rules.

After performing the first step in the expression $28 - 11 + 6 \times 3 + 5$, what is the next step?

After calculating $6 \times 3 = 18$, substitute back into the expression: $28 - 11 + 18 + 5$, then proceed with addition and subtraction from left to right.

What is the overall process to simplify the expression $28 - 11 + 6 \cdot 3 + 5$?

First, perform multiplication ($6 \cdot 3 = 18$), then carry out addition and subtraction in order: $28 - 11 = 17$, then $17 + 18 = 35$, and finally $35 + 5 = 40$.

How does understanding the first step help in solving complex expressions like $28 - 11 + 6 \cdot 3 + 5$?

Knowing the first step clarifies the correct order of operations, preventing mistakes and making the solving process more systematic and accurate.

Additional Resources

What Is The First Step In Solving This Expression? $28 - 11 + 6 \cdot 3 + 5$ Thanks,

In the realm of mathematics, especially when dealing with arithmetic expressions, the process of solving or simplifying an expression hinges critically on understanding the order of operations. The question, "What is the first step in solving this expression?" is fundamental for learners and seasoned mathematicians alike, as it guides the methodical approach necessary to arrive at the correct answer. The specific expression in question— $28 - 11 + 6 \cdot 3 + 5$ Thanks,—may initially seem straightforward, but it contains elements that can cause confusion without proper analysis. This article aims to dissect this expression comprehensively, analyze its components, and elucidate the initial steps needed for proper resolution, all within a structured, detailed framework.

Understanding the Expression: Breaking It Down

Before delving into the first step, it is crucial to interpret the given expression accurately. The expression presented is:

$28 - 11 + 6 \cdot 3 + 5$ Thanks,

At first glance, it appears to be a combination of numbers, subtraction, addition, and some extraneous text ("Thanks"). The core challenge lies in parsing this correctly to identify the mathematical components versus textual elements.

The Components

- Numerical values: 28, 11, 6, 3, 5

- Operators: subtraction (-), addition (+)
- Ambiguous parts: The sequence "6 3" and the word "Thanks,"

Clarifying Ambiguities

1. The "6 3" segment:

In standard mathematical notation, numbers are separated by operators. The sequence "6 3" suggests either:

- Multiplication: 6 3
- Concatenation: 63 (a two-digit number)
- Missing operator: An omitted symbol (e.g., 6 + 3 or 6 - 3)

Given the context, the most common and logical interpretation—especially in the absence of explicit operators—is that "6 3" indicates multiplication, i.e., 6 3.

2. The word "Thanks,"

This appears to be extraneous text, possibly a sign-off or a note. It does not have mathematical significance and should be disregarded in calculations.

Final Interpretation

Based on the above analysis, the clean, mathematically meaningful version of the expression is:

$$28 - 11 + (6 \ 3) + 5$$

Order of Operations: The Foundation of Solving Expressions

Understanding the order of operations (often abbreviated as PEMDAS or BODMAS) is essential in solving any arithmetic expression correctly. This set of rules determines which calculations to perform first when multiple operations are involved.

The Rules of PEMDAS/BODMAS

- P/B: Parentheses/Brackets: Evaluate expressions inside parentheses or brackets first.
- E/O: Exponents/Orders: Calculate powers and roots next.
- MD/DM: Multiplication and Division: Perform these from left to right.
- AS: Addition and Subtraction: Perform these last, from left to right.

Applying these rules ensures consistency and accuracy in calculations, especially when expressions involve multiple operators.

The First Step: Recognizing the Highest Priority Operations

With the expression clarified as $28 - 11 + (6 \cdot 3) + 5$, the initial step revolves around identifying the operation with the highest priority to tackle first.

Step 1: Identify and Evaluate Parentheses

The most critical aspect here is the parentheses around $6 \cdot 3$. According to PEMDAS/BODMAS, any operation inside parentheses should be executed before other calculations.

Therefore, the first step is:

- Evaluate the expression inside the parentheses:
 $6 \cdot 3 = 18$

This step simplifies the expression to:

$$28 - 11 + 18 + 5$$

Importance of Parentheses in Mathematical Expressions

Parentheses serve as a clear guide for the order in which operations should be performed. They override the general hierarchy, ensuring that complex expressions are evaluated correctly. Ignoring parentheses can lead to incorrect solutions, especially in expressions with multiple operations.

Subsequent Steps After the First

After completing the initial step of evaluating parentheses, the expression becomes:

$$28 - 11 + 18 + 5$$

The subsequent steps involve performing addition and subtraction from left to right, adhering to the rules.

Step 2: Perform Subtraction and Addition from Left to Right

- First, do $28 - 11$:

$$28 - 11 = 17$$

- Next, add 18:

$$17 + 18 = 35$$

- Finally, add 5:

$$35 + 5 = 40$$

Result: 40

Why Is Recognizing the First Step Crucial?

Understanding what constitutes the first step in solving an expression is essential because:

1. Ensures accuracy:

Performing operations in the correct order prevents errors.

2. Builds a systematic approach:

Breaking down the problem into manageable steps simplifies complex calculations.

3. Develops critical thinking skills:

Recognizing parentheses, exponents, or other grouping symbols enhances problem-solving abilities.

4. Prepares for more complex expressions:

Mastery of basic order of operations lays the foundation for tackling algebraic and calculus problems.

Common Pitfalls and How to Avoid Them

While the process seems straightforward, learners often encounter pitfalls that can lead to incorrect solutions.

1. Ignoring Parentheses

Mistake: Performing addition and subtraction before evaluating expressions inside parentheses.

Solution: Always evaluate parentheses first, regardless of the operations inside.

2. Misinterpreting Numbers and Operators

Mistake: Treating "6 3" as 63 or concatenating digits instead of recognizing multiplication.

Solution: Look for contextual clues and standard notation; in the absence of an operator, multiplication is the most common assumption.

3. Overlooking Extraneous Text

Mistake: Including non-mathematical text ("Thanks") in calculations.

Solution: Carefully parse the expression to exclude non-mathematical components.

4. Ignoring the Left-to-Right Rule for Equal Priority Operations

Mistake: Performing addition before subtraction or vice versa without following left-to-right order.

Solution: When operations share the same precedence, evaluate from left to right.

Broader Implications and Teaching Strategies

Understanding the first step in solving an expression is not just about arriving at the correct answer; it also involves cultivating a disciplined approach to problem-solving.

Teaching Approaches

- Visual aids: Use step-by-step diagrams**

showing the order of operations.

- Practice problems: Provide varied expressions that require identifying the first operation.
- Real-world examples: Relate expressions to everyday calculations (e.g., shopping, budgeting).
- Incremental complexity: Start with simple expressions and gradually introduce parentheses and multiple operations.

Encouraging Critical Thinking

Students should be encouraged to ask:

- What operation should I perform first?
- Are there any symbols or notation that dictate the order?
- Are there any extraneous parts that I should ignore?

Encouraging these questions fosters a deeper understanding of mathematical conventions.

Conclusion: Summarizing the First Step in Solving the Expression

In summary, the first step in solving the expression $28 - 11 + 6 \cdot 3 + 5$ Thanks, after proper interpretation, is to:

- Identify and evaluate the expression within parentheses:

Recognize that "6 3" is likely $6 \cdot 3$, based on context and standard notation.

- Perform the multiplication:

$$6 \cdot 3 = 18$$

This initial step simplifies the expression, setting the stage for subsequent addition and subtraction operations to reach the final answer of 40.

Mastering this first step is vital because it reflects a foundational principle in mathematics: always follow the order of operations diligently. Whether you're solving simple arithmetic or tackling complex algebraic expressions, understanding and correctly executing the initial step ensures accuracy, efficiency, and confidence in mathematical problem-solving.

In essence, recognizing the presence of

parentheses and performing the operations within them first embodies the core principle of the first step in solving any mathematical expression. This disciplined approach not only guarantees correct solutions but also cultivates logical thinking, an invaluable skill extending beyond mathematics into everyday decision-making and problem-solving scenarios.

[What Is The First Step In Solving This Expression 28 11 6 3 5thanks](#)

What Is The First Step In Solving This Expression 28 11 6 3 5thanks

Related Articles

- [If \$F\(x,y\) = X \tan\(xy\)\$, Evaluate \$F\(1,1\)\$.
 \$X^1 2^4 1^{24} 2^{12} + + H|2^1 4^1 4^2\$](#)
- [What Change Occurred In Europe As A Direct Result Of The Columbian Exchange?](#)
- [In What Direction Do Extra-tropical Cyclones Typically Track Across The Us?](#)

[Back to Home](#)