

Which Expression Is Equal To "three Less Than A Number Multiplied By Six"? A $6(x-3)$ C $3 - 6x$ B $6x - 3$ D

Which Expression Is Equal To "three Less Than A Number Multiplied By Six"? A $6(x-3)$ C $3 - 6x$ B $6x - 3$ D

Understanding algebraic expressions is fundamental to mastering mathematics. When faced with a problem like "which expression is equal to three less than a number multiplied by six," it is essential to interpret the words carefully and translate them into algebraic expressions. In this article, we will explore how to interpret this phrase, analyze the given options, and identify the correct algebraic expression. We will also discuss related concepts to enhance your understanding of algebraic translation, simplifying expressions, and evaluating expressions effectively.

Decoding the Phrase: "Three Less Than a Number Multiplied By Six"

Understanding the Components of the Phrase

The phrase "three less than a number multiplied by six" can be broken down into parts:

- "a number" – This is the variable, often represented as x .
- "Three less than a number" – This indicates subtracting 3 from the number, which can be written as $x - 3$.
- "Multiplied by six" – This suggests multiplying the previous result by 6, giving the expression $6(x - 3)$.

Constructing the Algebraic Expression

Based on the breakdown, the algebraic expression for "three less than a number multiplied by six" is:

1. Start with the phrase "three less than a number," which translates to $x - 3$.
2. Then, "multiplied by six" indicates multiplying this entire expression

by 6, leading to:

$$6(x - 3)$$

Analyzing the Given Options

Given the options:

- A) $6(x-3)C\ 3 - 6x$
- B) $6x - 3$
- C) $6x - 3$
- D) $6x$

Let's interpret each choice carefully:

Option A: $6(x-3)C\ 3 - 6x$

- The notation " $C\ 3$ " suggests a combination, which is unrelated to the current problem.
- The expression appears to be a combination or binomial coefficient, which is not relevant here.
- Therefore, option A does not correctly represent "three less than a number multiplied by six."

Option B: $6x - 3$

- This expression simplifies to "six times x minus three."
- It is not the same as "six times (x minus 3)."
- To verify, compare with the correct expression: $6(x - 3) = 6x - 18$.
- Since $6x - 3 \neq 6x - 18$, this is not equivalent to the original phrase.

Option C: $6x - 3$

- Same as option B; therefore, it is also incorrect for the same reasons.

Option D: $6x$

- This expression is simply "six times x " with no subtraction.
- It does not account for the "three less" part, so it cannot be correct.

Identifying the Correct Expression

Based on our analysis:

- The phrase "three less than a number multiplied by six" translates to $6(x - 3)$.
- None of the options B, C, or D exactly match this form.
- However, only option A, although containing extra notation, begins with $6(x - 3)$, which is the core expression.

Conclusion: The most accurate choice corresponding to the phrase is A) $6(x-3)C\ 3 - 6x$, assuming that the notation " $C\ 3$ " is a typo or misprint, and the intended expression is $6(x - 3)$.

If the options are strictly as given, then none match the correct algebraic expression. But in context, the correct algebraic expression is $6(x - 3)$.

How to Simplify and Verify Algebraic Expressions

Simplifying Expressions

When working with algebraic expressions, simplifying involves combining like terms and applying distributive properties:

- Distribute multiplication over addition or subtraction: $6(x - 3) = 6x - 18$.
- Combine like terms when possible.

Verifying Expressions

To verify if an expression matches a word problem:

1. Translate the words into an algebraic expression carefully.
2. Perform algebraic operations to simplify the expression.

3. Compare the simplified expression with the options provided.

Real-Life Applications of Algebraic Expressions

Understanding how to translate words into algebraic expressions is crucial in various real-life scenarios:

- **Budgeting:** Calculating total costs based on unit prices and quantities.
- **Cooking:** Adjusting ingredient quantities based on servings.
- **Construction:** Computing lengths, areas, or volumes based on given measurements.

Tips for Mastering Algebraic Translation

To become proficient at translating words into algebra:

- Identify keywords such as "less than," "more than," "multiplied by," "divided by," etc.
- Break down complex phrases into smaller parts.
- Practice translating varied word problems regularly.
- Use variables consistently to avoid confusion.

Conclusion

The phrase "three less than a number multiplied by six" translates into the algebraic expression $6(x - 3)$. Recognizing how to interpret and convert word problems into algebraic expressions is a vital skill in mathematics. While the options provided contain some confusing notation, the core correct expression is clear. Remember to analyze the language carefully, use proper algebraic notation, and verify your answers through simplification and substitution. Developing these skills will enhance your problem-solving ability and mathematical confidence.

In summary:

- The correct translation of "three less than a number multiplied by six" is

$6(x - 3)$.

- Be cautious of extraneous notation or symbols that do not align with the problem context.
- Practice translating different phrases to strengthen your algebraic understanding.

By mastering these concepts, you'll be better equipped to tackle algebraic expressions and word problems with confidence and accuracy.

Frequently Asked Questions

What is the algebraic expression for 'three less than a number multiplied by six'?

The expression is $6(x - 3)$.

Which option correctly represents 'three less than a number multiplied by six'?

Option A: $6(x - 3)$ is correct.

How can you simplify the expression $6(x - 3)$?

By distributing 6, you get $6x - 18$.

Is the expression $3 - 6x$ equivalent to 'three less than a number multiplied by six'?

No, $3 - 6x$ is not equivalent; the correct expression is $6(x - 3)$.

What is the coefficient of x in the expression representing 'three less than a number multiplied by six'?

The coefficient of x is 6.

If the number is represented by x , what does 'three less than x ' mean mathematically?

It means $x - 3$.

Which of the following options is NOT equivalent to

'three less than a number multiplied by six'? A) $6(x - 3)$ B) $3 - 6x$ C) $6x - 3$ D) None of the above

Option B: $3 - 6x$ is not equivalent; the correct expression is $6(x - 3)$.

Additional Resources

Which Expression Is Equal To "Three Less Than A Number Multiplied By Six"? This question is a common problem in algebra that tests understanding of algebraic expressions, operations, and how to translate word problems into mathematical form. The phrase "three less than a number" indicates a subtraction operation involving a variable, typically represented as " x ," and then this result is multiplied by six. The goal is to find the correct algebraic expression that accurately reflects this statement, among the options provided. In this review, we will analyze the problem carefully, interpret the phrase step by step, compare the options, and explain the reasoning behind the correct choice.

Understanding the Phrase: Breaking Down the Problem

Interpreting "Three Less Than a Number"

The phrase "three less than a number" is a common idiomatic expression in algebra that indicates subtracting 3 from some variable representing a number. Typically, if the number is represented by x , then:

- "Three less than a number" translates to $x - 3$.

It's important to note the order of operations: the subtraction must be performed before any multiplication in the original phrase if the multiplication applies to the entire "three less than a number" expression.

Multiplying by Six

The phrase continues with "multiplied by six," which indicates that the entire previous expression (the "three less than a number") is multiplied by 6.

Putting this together:

- First, find "three less than a number" $\rightarrow x - 3$
- Then, multiply this result by 6 $\rightarrow 6(x - 3)$

This is the core of the expression we're trying to identify.

Translating the Phrase into an Algebraic Expression

Based on the breakdown:

- "Three less than a number" $\rightarrow x - 3$
- "Multiplied by six" $\rightarrow 6(x - 3)$

Therefore, the algebraic expression is:

$$6(x - 3)$$

Analyzing the Multiple Choice Options

The options provided are:

- A) $6(x - 3)$
- B) $3 - 6x$
- C) $6x - 3$
- D) $6x - 3D$

Let's examine each option carefully.

Option A: $6(x - 3)$

This matches our derived expression directly. It correctly represents "three less than a number" multiplied by six. The parentheses ensure that the subtraction is performed first before multiplication.

Features:

- Correct interpretation of the phrase.
- Uses parentheses to clarify operation order.
- Represents exactly "six times (x minus 3)."

Pros:

- Accurate translation of the phrase.
- Clear and unambiguous.

Cons:

- None, assuming the notation is standard.

Option B: $3 - 6x$

This expression is "3 minus 6 times x," which is not equivalent to the original phrase.

Features:

- Subtracts $6x$ from 3.
- Implies a different order and operation.

Pros:

- Correctly involves 6 and x, but in a different configuration.

Cons:

- Does not reflect "three less than a number" multiplied by six.
- The order of operations is incorrect for the phrase.

Option C: $6x - 3$

This expression is "6 times x minus 3," which again does not match the intended meaning.

Features:

- Multiplies x by 6, then subtracts 3.
- Changes the meaning from the original phrase.

Pros:

- Simple algebraic expression involving 6 and x.

Cons:

- Does not match the phrase "three less than a number" (which is $x - 3$).
- The subtraction is after the multiplication, not applied to the number before multiplication.

Option D: $6x - 3D$

This appears to be a typo or formatting issue, as "3D" may not be intended as a variable. If it is, then:

- It is " $6x$ minus $3D$," which does not relate to the original phrase.

Features:

- Likely a misprint or extraneous variable.
- Not aligned with the problem statement.

Pros:

- None relevant to the problem.

Cons:

- Confusing and likely incorrect.

Conclusion: Identifying the Correct Expression

Based on the detailed analysis, the correct algebraic expression for the phrase "three less than a number multiplied by six" is:

$6(x - 3)$

This expression accurately captures:

- The "three less than a number" as $x - 3$.
- The "multiplied by six" as $6(x - 3)$.

Therefore, the correct choice is Option A: $6(x - 3)$.

Additional Insights and Tips for Translating Word Problems

Understanding how to translate words into algebraic expressions is crucial for solving many math problems efficiently. Here are some tips:

- Identify key phrases: Words like "less than," "more than," "difference," "product," "quotient," etc., have specific algebraic meanings.
- Pay attention to order: Parentheses are essential to clarify the order of operations.
- Break down complex sentences: Divide the phrase into parts and translate each part step by step.
- Practice with similar problems: Repetition helps in recognizing patterns and common translations.

Summary of Features and Recommendations

Feature	Description	Relevance to the Problem
Accurate translation	Correctly converting verbal phrases into algebraic	

expressions | Essential for solving algebraic word problems |
| Use of parentheses | Ensuring proper order of operations | Prevents
misinterpretation, especially with "less than" or "more than" phrases |
| Recognition of common phrases | "Less than," "multiplied by," etc. |
Enables quick and correct conversion |

Recommendation: For similar problems, always first interpret the phrase carefully, then translate step by step, paying attention to the order of operations and the placement of parentheses.

In conclusion, the expression $6(x - 3)$ most accurately reflects the phrase "three less than a number multiplied by six" among the options provided. Understanding the meaning behind the words and translating them systematically into algebraic expressions is a valuable skill that enhances problem-solving efficiency and accuracy in algebra.

1which Expression Is Equal To Three Less Than A Number Multiplied By Six A 6 X 3 C 3 6xb 6x 3d

1which Expression Is Equal To Three Less Than A Number Multiplied By Six A 6 X 3 C 3 6xb 6x 3d

Related Articles

- [A 5.0kg Cart Initially At Rest Is On A Smooth Horizontal Surface. A Net Horizontal Force Of 15N Acts](#)
- [A Bus Starts From Village A At 7:00 Am And Reaches Village B At 8:30 Am. If The Distance Between The](#)
- [A Leading Bus Mirror Manufacturing Company, In Order To Expand Its Production Capacity, Is Currently](#)

[Back to Home](#)