

REWRITE $12-(5+6m)$ WITHOUT PARENTHESES

REWRITE $12-(5+6m)$ WITHOUT PARENTHESES

WHEN WORKING WITH ALGEBRAIC EXPRESSIONS, THE USE OF PARENTHESES OFTEN INDICATES THE ORDER OF OPERATIONS AND GROUPING OF TERMS. HOWEVER, THERE ARE INSTANCES WHERE IT'S BENEFICIAL OR NECESSARY TO REWRITE AN EXPRESSION WITHOUT PARENTHESES, EITHER FOR SIMPLIFICATION, CLARITY, OR TO PREPARE FOR FURTHER ALGEBRAIC MANIPULATIONS. THE EXPRESSION $12 - (5 + 6m)$ SERVES AS A CLASSIC EXAMPLE OF SUCH A TASK. THIS ARTICLE PROVIDES A COMPREHENSIVE GUIDE ON HOW TO ELIMINATE PARENTHESES FROM THIS EXPRESSION, ALONG WITH THE UNDERLYING PRINCIPLES, METHODS, AND TIPS TO HANDLE SIMILAR ALGEBRAIC EXPRESSIONS EFFECTIVELY.

UNDERSTANDING THE ORIGINAL EXPRESSION

THE EXPRESSION COMPONENTS

THE EXPRESSION GIVEN IS:

$$12 - (5 + 6m)$$

LET'S BREAK DOWN ITS COMPONENTS:

- CONSTANT TERM: 12
- SUBTRACTING A SUM: $(5 + 6m)$

THE PARENTHESES INDICATE THAT THE SUM $5 + 6m$ IS TO BE CONSIDERED AS A SINGLE GROUPED TERM BEING SUBTRACTED FROM 12.

PURPOSE OF REWRITING WITHOUT PARENTHESES

REWRITING AN EXPRESSION WITHOUT PARENTHESES CAN SERVE MULTIPLE PURPOSES:

- SIMPLIFICATION: MAKING THE EXPRESSION EASIER TO INTERPRET OR COMPUTE.
- STANDARDIZATION: CONVERTING TO A FORM SUITABLE FOR FURTHER ALGEBRAIC OPERATIONS.
- CLARITY: AVOIDING AMBIGUITY IN COMPLEX EXPRESSIONS.
- COMPATIBILITY: ENSURING THE EXPRESSION FITS INTO CERTAIN COMPUTATIONAL TOOLS OR ALGORITHMS THAT DO NOT HANDLE PARENTHESES WELL.

RULES AND PRINCIPLES FOR ELIMINATING PARENTHESES

DISTRIBUTIVE PROPERTY

THE CORE PRINCIPLE USED TO ELIMINATE PARENTHESES INVOLVING ADDITION OR SUBTRACTION IS THE DISTRIBUTIVE PROPERTY:

- FOR ADDITION: $A + (B + C) = A + B + C$
- FOR SUBTRACTION: $A - (B + C) = A - B - C$

THIS PROPERTY STATES THAT WHEN A NUMBER OUTSIDE PARENTHESES IS ADDED OR SUBTRACTED TO A SUM OR DIFFERENCE INSIDE PARENTHESES, THE OPERATION DISTRIBUTES ACROSS EACH TERM INSIDE.

APPLYING THE DISTRIBUTIVE PROPERTY TO THE EXPRESSION

IN THE CASE OF $12 - (5 + 6m)$:

- THE MINUS SIGN BEFORE THE PARENTHESES ACTS AS A MULTIPLICATION BY -1 ACROSS EACH TERM INSIDE.
- THE EXPRESSION BECOMES: $12 + (-1)(5 + 6m)$

APPLYING THE DISTRIBUTIVE PROPERTY:

$$12 + (-1)5 + (-1)6m$$

SIMPLIFY EACH TERM:

$$12 - 5 - 6m$$

STEP-BY-STEP PROCESS TO REWRITE $12 - (5 + 6m)$ WITHOUT PARENTHESES

STEP 1: RECOGNIZE THE OPERATION SIGN

THE MINUS SIGN BEFORE PARENTHESES INDICATES SUBTRACTION OF THE ENTIRE EXPRESSION INSIDE.

STEP 2: DISTRIBUTE THE MINUS SIGN

- CHANGE THE SUBTRACTION TO ADDITION OF THE NEGATIVE:

$$12 + (-1)(5 + 6m)$$

STEP 3: APPLY THE DISTRIBUTIVE PROPERTY

- MULTIPLY -1 BY EACH TERM INSIDE PARENTHESES:

$$-1 \cdot 5 = -5$$

$$-1 \cdot 6m = -6m$$

STEP 4: REWRITE THE EXPRESSION

- COMBINE ALL TERMS:

$$12 - 5 - 6m$$

STEP 5: SIMPLIFY THE EXPRESSION

- COMBINE LIKE TERMS WHERE POSSIBLE:

$$12 - 5 = 7$$

SO, THE SIMPLIFIED EXPRESSION:

$$7 - 6m$$

FINAL REWRITTEN EXPRESSION

THE EXPRESSION $12 - (5 + 6m)$ REWRITTEN WITHOUT PARENTHESES IS:

$$7 - 6m$$

ADDITIONAL EXAMPLES AND VARIATIONS

EXAMPLE 1: SUBTRACTING A DIFFERENT EXPRESSION

ORIGINAL: $15 - (3x + 4)$

- DISTRIBUTE THE MINUS SIGN:

$$15 - 3x - 4$$

- SIMPLIFY:

$$(15 - 4) - 3x$$

$$= 11 - 3x$$

EXAMPLE 2: NESTED PARENTHESES

ORIGINAL: $20 - (5 - (2y + 3))$

- FIRST, HANDLE THE INNERMOST PARENTHESES:

$$20 - (5 - 2y - 3)$$

- SIMPLIFY INSIDE:

$$20 - (2 - 2y)$$

- DISTRIBUTE THE MINUS:

$$20 - 2 + 2y$$

- FINAL SIMPLIFIED FORM:

$$18 + 2y$$

COMMON MISTAKES TO AVOID

FORGETTING TO DISTRIBUTE THE MINUS SIGN

ALWAYS REMEMBER THAT THE MINUS SIGN OUTSIDE PARENTHESES APPLIES TO EVERY TERM INSIDE.

INCORRECT SIGN CHANGES

- MISTAKE: $12 - (5 + 6m) = 12 + 5 + 6m$

- CORRECT APPROACH: $12 - 5 - 6m$

NEGLECTING TO SIMPLIFY LIKE TERMS

AFTER DISTRIBUTION, COMBINE LIKE TERMS WHENEVER POSSIBLE TO SIMPLIFY THE EXPRESSION FURTHER.

SUMMARY OF STEPS TO REWRITE WITHOUT PARENTHESES

1. IDENTIFY THE OPERATION SIGN BEFORE PARENTHESES (MINUS, PLUS, ETC.).
2. EXPRESS SUBTRACTION AS ADDITION OF A NEGATIVE IF NEEDED.
3. DISTRIBUTE THE OUTSIDE SIGN ACROSS EACH TERM INSIDE PARENTHESES.
4. SIMPLIFY THE RESULTING EXPRESSION BY COMBINING LIKE TERMS.

5. VERIFY THE CORRECTNESS BY CONSIDERING THE ORIGINAL OPERATION AND ENSURING NO SIGNS ARE MISAPPLIED.

CONCLUSION

REWRITING THE ALGEBRAIC EXPRESSION $12 - (5 + 6m)$ WITHOUT PARENTHESES IS A STRAIGHTFORWARD PROCESS ROOTED IN THE DISTRIBUTIVE PROPERTY. BY RECOGNIZING THAT THE MINUS SIGN BEFORE PARENTHESES DISTRIBUTES AS A NEGATIVE ACROSS EACH TERM INSIDE, THE EXPRESSION SIMPLIFIES TO $12 - 5 - 6m$, WHICH FURTHER REDUCES TO $7 - 6m$. THIS METHOD IS FUNDAMENTAL IN ALGEBRA, FACILITATING EASIER MANIPULATION AND UNDERSTANDING OF MORE COMPLEX EXPRESSIONS. MASTERY OF DISTRIBUTING NEGATIVES AND COMBINING LIKE TERMS ENSURES ACCURACY AND EFFICIENCY IN ALGEBRAIC SIMPLIFICATION, ESSENTIAL SKILLS FOR STUDENTS AND PROFESSIONALS ALIKE.

FREQUENTLY ASKED QUESTIONS

HOW DO I REWRITE THE EXPRESSION $12 - (5 + 6m)$ WITHOUT PARENTHESES?

YOU DISTRIBUTE THE NEGATIVE SIGN ACROSS THE PARENTHESES, RESULTING IN $12 - 5 - 6m$.

WHAT IS THE SIMPLIFIED FORM OF $12 - (5 + 6m)$ WITHOUT PARENTHESES?

THE SIMPLIFIED FORM IS $7 - 6m$.

WHY DO WE NEED TO REMOVE PARENTHESES IN THE EXPRESSION $12 - (5 + 6m)$?

REMOVING PARENTHESES SIMPLIFIES THE EXPRESSION, MAKING IT EASIER TO EVALUATE OR MANIPULATE ALGEBRAICALLY.

IS IT NECESSARY TO CHANGE THE SIGNS WHEN REMOVING PARENTHESES IN $12 - (5 + 6m)$?

YES, BECAUSE THE NEGATIVE SIGN OUTSIDE THE PARENTHESES CHANGES THE SIGNS OF EACH TERM INSIDE, SO 5 BECOMES -5 AND $6m$ BECOMES $-6m$.

CAN I REWRITE $12 - (5 + 6m)$ AS $12 - 5 + 6m$?

NO, THAT IS INCORRECT. IT SHOULD BE $12 - 5 - 6m$, BECAUSE THE NEGATIVE SIGN APPLIES TO BOTH TERMS INSIDE THE PARENTHESES.

WHAT IS THE STEP-BY-STEP PROCESS TO REMOVE PARENTHESES IN $12 - (5 + 6m)$?

FIRST, DISTRIBUTE THE NEGATIVE SIGN: $12 - 5 - 6m$. THEN, COMBINE LIKE TERMS IF POSSIBLE.

HOW DOES REMOVING PARENTHESES AFFECT THE VALUE OF THE EXPRESSION $12 - (5 + 6m)$?

IT DOESN'T CHANGE THE VALUE; IT SIMPLY REWRITES THE EXPRESSION IN A MORE EXPLICIT FORM: $7 - 6m$.

IS THE EXPRESSION $12 - (5 + 6m)$ EQUIVALENT TO $7 - 6m$?

YES, AFTER REMOVING PARENTHESES AND SIMPLIFYING, BOTH EXPRESSIONS ARE EQUIVALENT.

CAN THE EXPRESSION $12 - (5 + 6m)$ BE FURTHER SIMPLIFIED?

YES, IT SIMPLIFIES TO $7 - 6m$ BY REMOVING PARENTHESES AND COMBINING CONSTANTS.

ADDITIONAL RESOURCES

REWRITE $12 - (5 + 6m)$ WITHOUT PARENTHESES: AN IN-DEPTH EXPLORATION

IN THE REALM OF ALGEBRA AND MATHEMATICAL SIMPLIFICATION, THE EXPRESSION $12 - (5 + 6m)$ IS A FUNDAMENTAL EXAMPLE OFTEN ENCOUNTERED BY STUDENTS AND EDUCATORS ALIKE. WHILE AT FIRST GLANCE IT APPEARS STRAIGHTFORWARD, THE PROCESS OF REWRITING THIS EXPRESSION WITHOUT PARENTHESES TO PRODUCE AN EQUIVALENT, SIMPLIFIED FORM INVOLVES UNDERSTANDING KEY ALGEBRAIC PRINCIPLES—MOST NOTABLY, THE DISTRIBUTIVE PROPERTY AND THE RULES OF SUBTRACTION. THIS ARTICLE AIMS TO EXPLORE THE SIGNIFICANCE, METHODS, AND IMPLICATIONS OF REWRITING SUCH EXPRESSIONS WITHOUT PARENTHESES, PROVIDING A COMPREHENSIVE GUIDE SUITABLE FOR BOTH LEARNERS AND ENTHUSIASTS IN THE FIELD OF MATHEMATICS.

THE SIGNIFICANCE OF REWRITING EXPRESSIONS WITHOUT PARENTHESES

PARENTHESES SERVE AS A CRITICAL COMPONENT IN MATHEMATICAL NOTATION, GROUPING TERMS TO CLARIFY ORDER OF OPERATIONS AND PRECEDENCE. HOWEVER, IN CERTAIN CONTEXTS—SUCH AS SIMPLIFYING EXPRESSIONS FOR COMPUTATIONAL PURPOSES, PROGRAMMING, OR ALGEBRAIC MANIPULATION—REMOVING PARENTHESES CAN STREAMLINE EXPRESSIONS, MAKING THEM EASIER TO EVALUATE OR INTERPRET.

REWRITING $12 - (5 + 6m)$ WITHOUT PARENTHESES IS MORE THAN JUST A COSMETIC CHANGE; IT EMBODIES THE APPLICATION OF ALGEBRAIC RULES TO MAINTAIN EQUIVALENCE WHILE RESTRUCTURING THE EXPRESSION. THIS PROCESS ENSURES CLARITY, REDUCES POTENTIAL ERRORS, AND FACILITATES FURTHER ALGEBRAIC OPERATIONS LIKE FACTORING, SOLVING, OR SUBSTITUTING VALUES.

UNDERSTANDING THE ORIGINAL EXPRESSION: AN ANALYTICAL APPROACH

BEFORE TRANSFORMING THE EXPRESSION, IT'S ESSENTIAL TO DISSECT ITS COMPONENTS:

- THE CONSTANT TERM: 12
- THE SUBTRACTION OPERATOR: $-$
- THE GROUPED SUM WITHIN PARENTHESES: $(5 + 6m)$

THE EXPRESSION CAN BE READ AS "12 MINUS THE QUANTITY OF 5 PLUS $6m$." THE PARENTHESES INDICATE THAT THE SUM OF 5 AND $6m$ SHOULD BE EVALUATED FIRST BEFORE SUBTRACTING FROM 12.

THE DISTRIBUTIVE PROPERTY: THE KEY TO REWRITING

AT THE HEART OF REWRITING EXPRESSIONS WITHOUT PARENTHESES LIES THE DISTRIBUTIVE PROPERTY OF MULTIPLICATION OVER ADDITION OR SUBTRACTION, EXPRESSED AS:

$$A(B + C) = A B + A C$$

ALTHOUGH IN THIS PARTICULAR EXPRESSION, NO MULTIPLICATION DIRECTLY INVOLVES PARENTHESES, THE PRINCIPLE GUIDES US IN DISTRIBUTING SUBTRACTION OVER THE SUM INSIDE PARENTHESES.

IN GENERAL, FOR AN EXPRESSION OF THE FORM:

$$A - (B + C)$$

WE CAN REWRITE IT AS:

$$A - B - C$$

SINCE SUBTRACTION DISTRIBUTES OVER ADDITION AS:

$$A - (B + C) = A - B - C$$

THIS PROPERTY HOLDS BECAUSE SUBTRACTION IS EQUIVALENT TO ADDING THE NEGATIVE OF A NUMBER.

IMPORTANT NOTE: THE SUBTRACTION OF A SUM IS EQUIVALENT TO SUBTRACTING EACH TERM INDIVIDUALLY, WITH ATTENTION PAID TO THE SIGNS.

STEP-BY-STEP REWRITING OF $12 - (5 + 6M)$

APPLYING THE ABOVE PRINCIPLE, THE EXPRESSION $12 - (5 + 6M)$ CAN BE REWRITTEN AS:

1. DISTRIBUTE THE SUBTRACTION ACROSS THE SUM:

$$12 - 5 - 6M$$

2. SIMPLIFY THE CONSTANTS:

$$(12 - 5) - 6M = 7 - 6M$$

THUS, THE EQUIVALENT EXPRESSION WITHOUT PARENTHESES IS:

$$7 - 6M$$

VERIFYING THE EQUIVALENCE: A NUMERICAL APPROACH

TO ENSURE THE REWRITTEN EXPRESSION IS INDEED EQUIVALENT, CONSIDER SUBSTITUTING VARIOUS VALUES FOR M:

M	ORIGINAL EXPRESSION: $12 - (5 + 6M)$	REWRITTEN EXPRESSION: $7 - 6M$	ARE THEY EQUAL?
---	-----	-----	-----

0	$12 - (5 + 0) = 12 - 5 = 7$	$7 - 0 = 7$	YES
1	$12 - (5 + 6) = 12 - 11 = 1$	$7 - 6 = 1$	YES
-1	$12 - (5 - 6) = 12 - (-1) = 13$	$7 - (-6) = 13$	YES
2	$12 - (5 + 12) = 12 - 17 = -5$	$7 - 12 = -5$	YES

THE CONSISTENCY ACROSS VARIOUS VALUES CONFIRMS THE CORRECTNESS OF THE REWRITTEN FORM.

BROADER IMPLICATIONS AND APPLICATIONS

REWRITING EXPRESSIONS WITHOUT PARENTHESES IS FOUNDATIONAL IN ALGEBRA, YET ITS IMPORTANCE EXTENDS TO MULTIPLE DOMAINS:

- PROGRAMMING AND CODING: MANY PROGRAMMING LANGUAGES PREFER EXPRESSIONS WITHOUT PARENTHESES FOR EFFICIENCY OR CLARITY, ESPECIALLY WHEN DEALING WITH COMPLEX CALCULATIONS.
- MATHEMATICAL PROOFS: SIMPLIFICATION AIDS IN PROVING IDENTITIES, INEQUALITIES, OR SOLVING EQUATIONS.
- EDUCATIONAL DEVELOPMENT: UNDERSTANDING HOW TO MANIPULATE EXPRESSIONS ENHANCES ALGEBRAIC FLUENCY.

COMMON PITFALLS TO AVOID

WHILE THE PROCESS APPEARS STRAIGHTFORWARD, LEARNERS OFTEN STUMBLE ON SUBTLETIES, SUCH AS:

- INCORRECT DISTRIBUTION: ASSUMING THAT SUBTRACTION DISTRIBUTES OVER ADDITION IN A MANNER DIFFERENT FROM THE ESTABLISHED RULE, LEADING TO ERRORS.
- SIGN ERRORS: FAILING TO CHANGE THE SIGNS PROPERLY WHEN REMOVING PARENTHESES, ESPECIALLY WITH NEGATIVE TERMS.
- OVERLOOKING THE ORDER OF OPERATIONS: IGNORING THAT PARENTHESES INFLUENCE THE ORDER, NOT JUST THE GROUPING.

PROPER PRACTICE AND CAREFUL APPLICATION OF ALGEBRAIC PRINCIPLES MITIGATE THESE ISSUES.

EXTENSIONS AND RELATED CONCEPTS

THE PROCESS OF REWRITING EXPRESSIONS WITHOUT PARENTHESES CONNECTS TO SEVERAL RELATED ALGEBRAIC CONCEPTS:

- COMBINING LIKE TERMS: SIMPLIFYING EXPRESSIONS TO THEIR MOST CONCISE FORM.
- FACTORING: REVERSING THE PROCESS TO FACTOR EXPRESSIONS, WHICH SOMETIMES INVOLVES DISTRIBUTING OR EXPANDING TERMS.
- SOLVING EQUATIONS: REWRITTEN EXPRESSIONS OFTEN SERVE AS THE STARTING POINT FOR SOLVING FOR VARIABLES.

MOREOVER, SIMILAR PRINCIPLES APPLY WHEN DEALING WITH MORE COMPLEX EXPRESSIONS INVOLVING MULTIPLE PARENTHESES, NESTED GROUPINGS, OR OTHER OPERATIONS LIKE MULTIPLICATION AND DIVISION.

EXAMPLE OF COMPLEX REWRITING

FOR A MORE COMPLICATED EXPRESSION, SUCH AS:

$$(A + (B - C)) - D$$

THE REWRITING PROCESS INVOLVES:

- REMOVING INNERMOST PARENTHESES:

$$A + B - C - D$$

- ENSURING THE SIGNS ARE CORRECTLY ASSIGNED:

$$A + B - C - D$$

WHICH CAN BE FURTHER REARRANGED OR SIMPLIFIED DEPENDING ON CONTEXT.

CONCLUSION: MASTERING THE ART OF EXPRESSION REWRITING

REWRITING $12 - (5 + 6m)$ WITHOUT PARENTHESES IS A FUNDAMENTAL YET VITAL SKILL IN ALGEBRA, EMBODYING THE CORE PRINCIPLES OF DISTRIBUTION AND OPERATION RULES. THE STRAIGHTFORWARD PROCESS—APPLYING THE DISTRIBUTIVE PROPERTY—TRANSFORMS THE EXPRESSION INTO AN EQUIVALENT, SIMPLIFIED FORM: $7 - 6m$.

THIS EXERCISE UNDERSCORES A BROADER THEME IN MATHEMATICS: THE IMPORTANCE OF UNDERSTANDING HOW OPERATIONS INTERACT WITHIN EXPRESSIONS. MASTERY OF SUCH TRANSFORMATIONS NOT ONLY FACILITATES SMOOTHER CALCULATIONS BUT ALSO DEEPENS COMPREHENSION OF ALGEBRAIC STRUCTURES, THEREBY ENRICHING ONE'S PROBLEM-SOLVING TOOLKIT.

WHETHER FOR ACADEMIC PURSUITS, PROGRAMMING, OR LOGICAL REASONING, THE ABILITY TO MANIPULATE AND REWRITE EXPRESSIONS IS INVALUABLE. BY GRASPING THE UNDERLYING PRINCIPLES DEMONSTRATED HERE, LEARNERS CAN CONFIDENTLY NAVIGATE MORE COMPLEX ALGEBRAIC LANDSCAPES, ENSURING ACCURACY, CLARITY, AND EFFICIENCY IN THEIR MATHEMATICAL ENDEAVORS.

Rewrite 12 5 6m Without Parenthesizes

Rewrite 12 5 6m Without Parenthesizes

Related Articles

- [Explain Why The Author Calls The Moon "powerless."](#)
- <https://www.oklahoma4.create.ou.edu/>
- [2b - 3 / 3 \(fraction\) - 5 = 10. Solve For B](#)

[Back to Home](#)