Combine Like Terms Worksheet Answer Key PDF

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Part 1: Foundational Knowledge

What are like terms in algebra?

undefined. A) Terms with the same coefficients

undefined. B) Terms with the same variables and exponents ✓

undefined. C) Terms with different variables

undefined. D) Terms with no variables

Like terms are terms that have the same variables raised to the same powers.

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Like terms are terms that have the same variables raised to the same powers.

Which of the following are like terms? (Select all that apply)

undefined. A) 3x and 5x ✓

undefined. B) 4y^2 and 4y

undefined. C) 7a^2 b and 2a^2 b ✓

undefined. D) 9z and 9z^2

Like terms must have the same variable and exponent.

Which of the following are like terms? (Select all that apply)

undefined. A) 3x and 5x ✓
undefined. B) 4y^2 and 4y
undefined. C) 7a^2 b and 2a^2 b ✓
undefined. D) 9z and 9z^2

Like terms include those with the same variable and exponent.

Explain why 2x and 3x^2 are not considered like terms.

2x and 3x^2 are not like terms because they have different exponents.

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List the steps to combine like terms in an algebraic expression.

1. Step 1
Identify like terms.

2. Step 2
Group the like terms together.

3. Step 3
Add or subtract the coefficients.

The steps include identifying like terms, grouping them, and then adding or subtract them.

Part 2: Understanding and Interpretation

Which expression correctly combines the like terms in 4m + 5m - 2m?

undefined. A) 7m ✓
undefined. B) 9m
undefined. C) 11m
undefined. D) 6m

The correct expression is 7m.

Which expression correctly combines the like terms in 4m + 5m - 2m?

undefined. A) 7m ✓
undefined. B) 9m
undefined. C) 11m
undefined. D) 6m

The correct combination of like terms results in 7m.

Identify the errors in the following combination of like terms: 3x + 2y - x = 5x + 2y. (Select all that apply)

undefined. A) Incorrect addition of x terms ✓
undefined. B) Incorrect addition of y terms
undefined. C) Incorrect subtraction of x terms
undefined. D) No errors

The error lies in the incorrect addition of x terms.

Identify the errors in the following combination of like terms: 3x + 2y - x = 5x + 2y. (Select all that apply)

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undefined. D) No errors

The errors include incorrect addition of x terms.

Describe how you would simplify the expression 6a + 3 b - 2a + b.

To simplify, group the a terms and the b terms, then combine them.

Describe how you would simplify the expression 6a + 3 b - 2a + b.

You would group 6a and -2a, and then combine 3 b and b.

Part 3: Applying Knowledge and Analyzing Relationships

Simplify the expression 8x^2 + 3x - 5x^2 + 2x.

undefined. A) 3x^2 + 5x ✓
undefined. B) 13x^2 + 5x
undefined. C) 3x^2 + x
undefined. D) 3x^2 + 7x

The simplified expression is 3x^2 + 5x.

Simplify the expression 8x^2 + 3x - 5x^2 + 2x.

undefined. A) 3x^2 + 5x ✓
undefined. B) 13x^2 + 5x
undefined. C) 3x^2 + x
undefined. D) 3x^2 + 7x

The simplified expression is 3x^2 + 5x.

Which of the following expressions can be simplified by combining like terms? (Select all that apply)

undefined. A) 4x + 3y + 2x ✓
undefined. B) 5a^2 + 3a - 2a^2 ✓
undefined. C) 7 b + 2 c + 3 b ✓
undefined. D) 9m^2 + 4n + 3m^2 ✓

Expressions with like terms can be simplified.

Which of the following expressions can be simplified by combining like terms? (Select all that apply)

undefined. A) 4x + 3y + 2x ✓
undefined. B) 5a^2 + 3a - 2a^2 ✓
undefined. C) 7 b + 2c + 3 b ✓
undefined. D) 9m^2 + 4n + 3m^2 ✓

Expressions with like terms can be simplified.

Simplify the expression 10 p - 3 q + 2 p + 4 q and explain each step.

The expression simplifies to 12 p + q after combining like terms.

Simplify the expression 10 p - 3 q + 2 p + 4 q and explain each step.

Combine 10 p and 2 p, and -3 q and 4 q.

If you have the expression x^2 + 2x + 3x^2 - 4x, what is the correct simplified form?

undefined. A) 4x^2 - 2x ✓
undefined. B) x^2 - 2x
undefined. C) 3x^2 + 2x
undefined. D) 4x^2 + 2x

The correct simplified form is 4x^2 - 2x.

Break down the process of simplifying 7x + 4y - 3x + 2y and discuss any potential errors to avoid.

The process involves grouping x terms and y terms, leading to 4x + 6y.

Part 4: Synthesis and Reflection

If you have the expression x^2 + 2x + 3x^2 - 4x, what is the correct simplified form?

undefined. A) 4x^2 - 2x ✓
undefined. B) x^2 - 2x
undefined. C) 3x^2 + 2x
undefined. D) 4x^2 + 2x

The correct simplified form is 4x^2 - 2x.

Break down the process of simplifying 7x + 4y - 3x + 2y and discuss any potential errors to avoid.

Group 7x and -3x, and 4y and 2y, then combine.

Evaluate the correctness of the following simplification: 9a - 4 b + 2a + b = 11a - 3 b.

undefined. A) Correct

undefined. B) Incorrect ✓

undefined. C) Not enough information

undefined. D) Needs clarification

The simplification is incorrect; it should be 11a - 3 b.

Which of the following statements about combining like terms are true? (Select all that apply)

undefined. A) Only coefficients of like terms are added or subtracted. ✓

undefined. B) Variables with different exponents can be combined.

undefined. C) Combining like terms simplifies expressions. ✓

undefined. D) Like terms must have the same variable and exponent. ✓

Only statements about adding coefficients and the requirement for like terms are true.

Which of the following statements about combining like terms are true? (Select all that apply)

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undefined. C) Combining like terms simplifies expressions. ✓

undefined. D) Like terms must have the same variable and exponent. ✓

Only coefficients of like terms are added or subtracted.

Create an algebraic expression with at least three different sets of like terms and simplify it. Explain your process.

An example expression could be 2x + 3x + 4y - y + 5z - 2z, which simplifies to 5x + 3y + 3z.

Create an algebraic expression with at least three different sets of like terms and simplify it. Explain your process.

Create an expression and demonstrate the simplification process.