Combine Like Terms Worksheet

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Part 1: Foundational Knowledge

What are like terms in algebra?

Hint: Think about the characteristics that define like terms.

- ◯ A) Terms with the same coefficients
- ◯ B) Terms with the same variables and exponents
- ◯ C) Terms with different variables
- ◯ D) Terms with no variables

What are like terms in algebra?

Hint: Think about the characteristics of the terms.

- ◯ A) Terms with the same coefficients
- ◯ B) Terms with the same variables and exponents
- ◯ C) Terms with different variables
- ◯ D) Terms with no variables

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

Hint: Look for terms that share the same variable and exponent.

- ☐ A) 3x and 5x
- ☐ B) 4y^2 and 4y
- ☐ C) 7a^2 b and 2a^2 b
- ☐ D) 9z and 9z^2

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- [ ] D) 9z and 9z^2

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

Hint: Consider the variables and their exponents.

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Hint: Consider the variables and their exponents.

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

Hint: Think about the process of grouping and simplifying.

1. Step 1

2. Step 2

3. Step 3

Part 2: Understanding and Interpretation

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

Hint: Add and subtract the coefficients of m.

- ◯ A) 7m
- ◯ B) 9m
- ◯ C) 11m
- ◯ D) 6m

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

Hint: Combine the coefficients of the m terms.

- ◯ A) 7m
- ◯ B) 9m
- ◯ C) 11m
- ◯ D) 6m

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

Hint: Look closely at the x and y terms.

- ☐ A) Incorrect addition of x terms
- ☐ B) Incorrect addition of y terms
- ☐ C) Incorrect subtraction of x terms
- ☐ D) No errors

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

Hint: Check the addition and subtraction of the x and y terms.

- ☐ A) Incorrect addition of x terms
- ☐ B) Incorrect addition of y terms
- ☐ C) Incorrect subtraction of x terms
- ☐ D) No errors

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

Hint: Think about grouping like terms together.

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

Hint: Consider grouping like terms together.

Part 3: Applying Knowledge and Analyzing Relationships

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

Hint: Combine the x^2 terms and the x terms separately.

- ◯ A) 3x^2 + 5x
- ◯ B) 13x^2 + 5x
- ◯ C) 3x^2 + x
- ◯ D) 3x^2 + 7x

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- ◯ A) 3x^2 + 5x
- ◯ B) 13x^2 + 5x
- ◯ C) 3x^2 + x
- ◯ D) 3x^2 + 7x

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

Hint: Look for expressions with similar variables and exponents.

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

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

Hint: Look for terms with the same variable and exponent.

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

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

Hint: Group like terms and combine them.

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

Hint: Group like terms and simplify.

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

Hint: Combine the x^2 terms and the x terms.

- ◯ A) 4x^2 - 2x
- ◯ B) x^2 - 2x
- ◯ C) 3x^2 + 2x
- ◯ D) 4x^2 + 2x

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

Hint: Consider how you group and combine terms.

Part 4: Synthesis and Reflection

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

Hint: Combine the x^2 terms and the x terms.

- ◯ A) 4x^2 - 2x
- ◯ B) x^2 - 2x
- ◯ C) 3x^2 + 2x
- ◯ D) 4x^2 + 2x

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

Hint: Consider grouping like terms together.

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

Hint: Check the addition and subtraction of coefficients.

- ◯ A) Correct
- ◯ B) Incorrect
- ◯ C) Not enough information
- ◯ D) Needs clarification

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

Hint: Consider the rules of combining like terms.

- ☐ A) Only coefficients of like terms are added or subtracted.
- ☐ B) Variables with different exponents can be combined.
- ☐ C) Combining like terms simplifies expressions.
- ☐ D) Like terms must have the same variable and exponent.

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

Hint: Consider the properties of like terms.

- ☐ A) Only coefficients of like terms are added or subtracted.
- ☐ B) Variables with different exponents can be combined.
- ☐ C) Combining like terms simplifies expressions.
- ☐ D) Like terms must have the same variable and exponent.

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

Hint: Think about how to group and combine terms.

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