Maths with Melissa

Collecting Like Terms Worksheet

Simplify each of the following expressions by collecting like terms. Show your working where appropriate.

Multiple Choice Questions

1. Simplify the expression: $3x + 4x$

a) $7x$

b) $12x^2$

c) x^7

d) $1x$

2. What is the simplified form of: $5y - 2y + y$

a) $4y$

b) $6y$

c) $8y$

d) $3y$

3. Which of the following is the result of simplifying $2a + 3b + 4a - b$?

a) $6a + 2b$

b) $6a + 4b$

c) $5a + 2b$

d) $2a + 2b$

4. Simplify: $7m - 4n + 2m + 3n$

a) $9m - n$

b) $5m + 7n$

c) $9m + n$

d) $7m + 5n$

5. What is the simplified form of $6p - 3p + 2q - q$?

a) $3p + q$

b) $9p + 3q$

c) $3p + q$

d) $6p + 2q$

Fill in the Blank Questions

[Word Bank: 5x, 9y, 4z, 11k]

1. 2x + 3x = _____
2. 4y + 5y = _____
3. 7z - 3z = _____
4. 8k + 3k = _____
5.

True/False Questions

1. True or False: $2x + 3y$ can be simplified to $5xy$.
2. True or False: $4a + 6a = 10a$.

Short Answer Questions

1. Explain what is meant by "like terms" in algebra.
2. Simplify the expression $2x + 4y - x + 3y$.

Answer Key

Multiple Choice Answers:

1. a) $7x$
2. b) $4y$
3. a) $6a + 2b$
4. c) $9m + n$
5. a) $3p + q$

Fill in the Blank Answers:

1. $5x$
2. $9y$
3. $4z$
4. $11k$

True/False Answers:

1. False – $2x + 3y$ cannot be combined because they are not like terms.
2. True

Short Answer Sample Answers:

1. Like terms are terms that have the same variable(s) raised to the same power, and can be combined by adding or subtracting their coefficients.
2. $2x + 4y - x + 3y = (2x - x) + (4y + 3y) = x + 7y$