

3.1 Like and Unlike Terms - Worksheet 1

1 Using the grid below, identify all of the monomials of $4x^3 - 3x^2 + 6x - 5$. Then determine the coefficient and variable part of each term.

Monomial				
Coefficient				
Variable Part				

Mistakes involving negative signs and subtraction symbols are among the most common mistakes for students to make. Part of the value of this exercise is to train your mind to pay close attention to those symbols.

2 Simplify the expression $(5a + 3b) + (8a - 5b)$ using a complete presentation. Show the rearrangement step, the grouping step, and the arithmetic step.

We are asking you to show all of the steps because it's important to be able to communicate these manipulations clearly. Use these instructions like a checklist of algebraic manipulations that you should know how to do.

3 Two students perform the calculation $6x - 6x$. One student claims that the answer is x while the other claims the answer is 0. Determine which student did the calculation correctly and explain your reasoning using complete sentences. Then explain the error that the other student made.

Knowing why certain manipulations are wrong can be as helpful as knowing why certain manipulations are right.

3.2 Like and Unlike Terms - Worksheet 2

1 Using the grid below, identify all of the monomials of $3x^3 - 5xyz + xz - 3$. Then determine the coefficient and variable part of each term.

Monomial				
Coefficient				
Variable Part				

2 Simplify the expression $(7m + 3n) + (5m - 3n)$ using a complete presentation. Show the rearrangement step, the grouping step, and the arithmetic step.

3 Simplify the expression $(5x + 3) - (2x - 5)$ using a complete presentation. Show the distribution step, the rearrangement step, the grouping step, and the arithmetic step.

Remember that a negative multiplied by a negative is a positive.

3.3 Like and Unlike Terms - Worksheet 3

1 Simplify the expression $(3a + 2b) + 2(-a + 3b)$ using a complete presentation. Show the distribution step, rearrangement step, the grouping step, and the arithmetic step.

2 Simplify the expression $(-6x + 4y) - (-6x - 4y)$ using a complete presentation. Show the rearrangement step, the grouping step, and the arithmetic step.

Be careful!

3 Simplify the expression $(7x - 5) - (3x - 4)$.

Although it's important to be able to explain every step carefully, in practice we don't always do that. Your instructor may or may not have specific instructions for what they are looking for. Just remember that the main thing is that your work must be legible and understandable to someone else.

3.4 Like and Unlike Terms - Worksheet 4

1 Simplify the expression $2(4a^2 + 5ab - 3b^2) - (3a^2 - ab + 7b^2)$.

You were never told how to handle three different types of terms. But if you understand what you were doing before, you should be able to do this without extra guidance.

2 Simplify the expression $3(x^2 - 4x + 2) - 2(x^2 - 5)$.

3 Two students perform the calculation $5x^2 - x^2$. One student claims that the answer is $4x^2$ while the other claims the answer is 5. Determine which student did the calculation correctly and explain your reasoning using complete sentences. Then explain the error that the other student made.

3.5 Like and Unlike Terms - Worksheet 5

1 Simplify the expression $-2(3m^2 - 6mn + 4n) + 3(-m^2 + 4mn + 3n)$.

2 Simplify the expression $3(x^2 - 5x + 4) - 2(3x^2 - 5x + 6)$.

3 Simplify the expression $3(t^2 - 6t + 2) - 2(t^2 + 4t) + 3(t - 5)$.