

Adding Subtracting Polynomials Worksheet Answer Key PDF

Adding Subtracting Polynomials Worksheet Answer Key PDF

Disclaimer: The adding subtracting polynomials worksheet answer key pdf was generated with the help of StudyBlaze AI. Please be aware that AI can make mistakes. Please consult your teacher if you're unsure about your solution or think there might have been a mistake. Or reach out directly to the StudyBlaze team at max@studyblaze.io.

Part 1: Building a Foundation

What is the degree of the polynomial $(4x^3 + 3x^2 - 2x + 7)$?

undefined. A) 1

undefined. B) 2

undefined. C) 3 ✓

undefined. D) 4

The degree of the polynomial is the highest exponent of the variable, which is 3.

Which of the following are terms of the polynomial $(5x^2 - 3x + 4)$?

undefined. A) $(5x^2)$ ✓

undefined. B) $(-3x)$ ✓

undefined. C) (4) ✓

undefined. D) (x^3)

The terms of the polynomial are $(5x^2)$, $(-3x)$, and (4) .

Define a polynomial and give an example.

A polynomial is an expression like $(ax^n + bx^{n-1} + \dots + k)$ where (a, b, k) are constants and (n) is a non-negative integer. An example is $(2x^2 + 3x + 1)$.

Identify the coefficient and the degree of the term $(7x^4)$.

1. What is the coefficient?

7

2. What is the degree?

4

The coefficient is 7 and the degree is 4.

Part 2: comprehension and Application

Which statement best describes the process of adding polynomials?

undefined. A) Add the coefficients of all terms regardless of their variables.

undefined. B) Add only the constant terms.

undefined. C) Add the coefficients of like terms. ✓

undefined. D) Add the highest degree terms only.

The correct process is to add the coefficients of like terms.

When subtractING the polynomial $(2x^2 - 3x + 5)$ from $(4x^2 + x - 2)$, which steps are necessary?

undefined. A) Change the signs of the terms in the second polynomial. ✓

undefined. B) Align like terms. ✓

undefined. C) Subtract the coefficients of like terms. ✓

undefined. D) Multiply the polynomials.

The necessary steps include changing the signs of the second polynomial and aligning like terms.

A rectangle has a length represented by the polynomial $(3x + 2)$ and a width represented by $(x - 1)$. Write an expression for the perimeter of the rectangle.

The expression for the perimeter is $2((3x + 2) + (x - 1)) = 2(4x + 1) = 8x + 2$.

What is the result of adding the polynomials $(3x^2 + 2x - 1)$ and $(x^2 - 4x + 3)$?

undefined. A) $(4x^2 - 2x + 2)$ ✓

undefined. B) $(4x^2 - 6x + 2)$

undefined. C) $(2x^2 - 2x + 2)$

undefined. D) $(4x^2 + 6x - 4)$

The result of adding the polynomials is $(4x^2 - 2x + 2)$.

Part 3: Analysis, Evaluation, and Creation

Which of the following best describes the relationship between the terms of the polynomial $(2x^3 - 4x^2 + x - 5)$?

undefined. A) All terms have the same degree.

undefined. **B) The terms have different degrees. ✓**

undefined. C) All terms are constants.

undefined. D) The polynomial has no like terms.

The terms have different degrees, indicating they are not like terms.

When analyzing the polynomial $(5x^2 - 3x + 7)$, which statements are true?

undefined. **A) The polynomial has three terms. ✓**

undefined. **B) The degree of the polynomial is 2. ✓**

undefined. **C) The coefficient of the linear term is -3. ✓**

undefined. **D) The constant term is 7. ✓**

The true statements are that the polynomial has three terms, the degree is 2, and the coefficient of the linear term is -3.

Evaluate the polynomial $(x^3 - 6x^2 + 11x - 6)$ and determine if it can be factored into linear factors. Explain your reasoning.

The polynomial can be factored into linear factors, and the reasoning involves finding its roots.

Create a polynomial that represents the area of a triangle with a base of $(2x + 3)$ and a height of $(x - 1)$. Write the polynomial and explain your reasoning.

The polynomial for the area is $(A = \frac{1}{2}(2x + 3)(x - 1))$, which simplifies to a quadratic expression.