Assignment: Subtract Polynomials

Part I: Practice Subtracting Polynomials

Subtract the polynomials, showing all the steps necessary to write the answer in simplest form.

1. $(9x-4)-(3x+2)$

2. $(3x^2+8)-(2x^2+1)$

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

4. $(10x^2-5)-(12x^2+4x-3)$

5. $(7x^3-4x^2+2)-(2x^3+5x-7)$

6. $(x^3-3x^2+2x)-(x^2-9)$

7. $(x^5-x^4+3x^3+x^2)-(9x^5-4x^4+3x^3-5x)$

8. $(15x^5-4x^3-3x^2+11)-(2x^5+3x^3-9x-8)$

Part II: Create Your Own Subtraction Problems

There are special names for polynomials depending on the highest power and the number of terms. For example, $x^2 + 2x - 3$ is considered a *second degree trinomial* because the largest power is 2, and there are three terms in the polynomial. Another example is $4x^3$, which is a *third degree monomial* because the largest power is 3, and there is one term in the polynomial. Review some common types of polynomials in the table below.

Polynomial Type	Definition	Examples
Monomial	A polynomial with one term	$3x^2$ $9x$ x^5
Binomial	A polynomial with two terms	$5x - 6$ $x^2 + 5$ $3x^3 - 4x$
Trinomial	A polynomial with three terms	$2x^2 + 4x - 1$ $x^3 - 5x^2 + 3x$ $4x^6 + x^3 - 6x^2$

Now create your own problems that involve subtracting different types of polynomials. Write each problem according to the directions. Then subtract the polynomials, showing all work necessary to write the answer in simplest form.

9. Subtract a first degree binomial from a second degree trinomial.

10. Subtract a second degree trinomial from a second degree trinomial.

11. Subtract a second degree binomial from a third degree trinomial.