R.3 – Addition, Subtraction, and Multiplication of Polynomials

Skills

- R.3a - Identify the terms and state the degree of a polynomial.
- R.3b - Add and/or subtract polynomials.
- R.3c - Multiply monomial expressions.
- R.3d - Multiply binomial expressions.
- R.3e - Multiply binomial conjugates and a binomial that is being squared.

Introduction

Polynomials in One Variable

A **polynomial in one variable** is any expression of the type

$$a_n x^n + a_{n-1}x^{n-1} + \cdots + a_2 x^2 + a_1 x + a_0,$$

where n is a nonnegative integer and $a_n, \ldots, a_0$ are real numbers, called **coefficients**. The parts of a polynomial separated by plus signs are called **terms**. The **leading coefficient** is a_n, and the **constant term** is a_0. If $a_n \neq 0$, the **degree** of the polynomial is n. The polynomial is said to be written in **descending order**, because the exponents decrease from left to right.

Examples of polynomials

monomial	binomial	trinomial	polynomial with…

Adding/Subtracting polynomials

Multiplying polynomials

Monomial(Binomial)	(Binomial)(Binomial)	Conjugates

Work for Example 1 thru 3

1)	3)

Example 4

5)	9)

Example 5

13)	15)

Example 6

17)

Example 7

19)

Example 8

27)

37)

R.3 - EXTRA PRACTICE

Extra Practice R.3a on p.21 #1-4 - Follow the instructions in the book and complete the problems.

Extra Practice R.3b on p.21 #5-12 - Follow the instructions in the book and complete the problems.

Extra Practice R.3c on p.21 #13-16 - Follow the instructions in the book and complete the problems.

Extra Practice R.3d on p.21 #19-26 and #37-46 - Follow the instructions in the book and complete the problems.

Extra Practice R.3e on p.21 #27-36 and #37-46 - Follow the instructions in the book and complete the problems.

R.3 - IXL PRACTICE

IXL - A1-W.1 Polynomial vocabulary

Date				Final
Grade				
Initials				

R.3a

IXL - A1-W.4 Add and subtract polynomials

Date				Final
Grade				
Initials				

R.3b

IXL - A1-W.5 Add polynomials to find perimeter

Date				Final
Grade				
Initials				

R.3b

IXL - A1-C.16 Multiply powers: variable bases

Date				Final
Grade				
Initials				

R.3c

IXL - A1-C.18 Multiply and divide powers: variable bases

Date				Final
Grade				
Initials				

R.3c

IXL - A1-W.8 Multiply two binomials

Date				Final
Grade				
Initials				

R.3d

IXL - A1-W.9 Multiply two binomials: special cases

Date				Final
Grade				
Initials				

R.3e

Closing Reflection:

IXL - A1-W.11 Multiply polynomials

Date				Final
Grade				
Initials				

IXL - A1-W.12 Multiply polynomials to find area

Date				Final
Grade				
Initials				

IXL - A1-W.13 Divide polynomials by monomials

Date				Final
Grade				
Initials				

IXL - A1-W.14 Divide polynomials using long division

Date				Final
Grade				
Initials				