Review Lesson 5
Simplifying Polynomial Expressions

NAME:

Start by navigating to the Online Lesson for instructions.

Objectives

- ⊘ Simplify polynomial expressions.
- ⊘ Classify polynomial expressions.

Introduced in:

Algebra 1: Principles of Secondary Mathematics

Lesson 20

Simplifying Polynomial Expressions

▷ *Fill in the notes as you watch the video in the Online Lesson.*

- To simplify a _____ expression:

    - Combine all _____.

    - Write the expression in descending order by the _____ of the exponents.

- _____ the expression may require the distributive property as well as adding and subtracting like terms.

- Once the expression is simplified and in descending power order, a polynomial expression can be _____ by the degree of the exponent on the leading term and the number of terms.

degree	classification
	constant
	linear
	quadratic
	cubic

number of terms	classification
	monomial
	binomial
	trinomial
	polynomial with n terms

Example 1

▷ *Complete the example as you watch the video in the Online Lesson.*

Simplify.

$$\left(14x^2 - 22x + 1\right) - \left(x^2 + 7x - 11\right)$$
$$\left(14x^2 - 22x + 1\right) + \left(-x^2 - 7x + 11\right)$$

This is a quadratic trinomial.

Example 2

▷ *Complete the example as you watch the video in the Online Lesson.*

Find the product.

$$(2x + 3)\left(-x^2 + 11x - 4\right)$$

This is a cubic polynomial with 4 terms.

✎ Practice

Simplify. Then classify each expression.

1) $\left(7x^2 + 2x - 4\right) - \left(7x^2 - 4\right)$

2) $\left(5x^2 - 3x + 8\right) + \left(2x^2 - 15x - 11\right)$

3) $\left(x^2 + 11x - 5\right) - 4(2x - 3)$

4) $-x\left(4x^2 - 1\right) + \left(5x^2 - 16x\right)$

5) $\left(x^3 - 4x + 3\right) + \left(6x^2 + 8x + 7\right)$

6) $3x(x + 6) - \left(x^2 + 6\right) - 3x$

Simplify.

7) $\left(11x^2 + 2\right) + x(3 - 11x)$

8) $9(2 - x) + 8(3 + 4x)$

9) $(5x - 4)(2x + 9)$

10) $(x + 5)\left(3x^2 + x - 4\right)$

11) $(4x + 1)\left(x^2 - 8\right)$

12) $(7x - 2)\left(6x^2 + 5x - 1\right)$

To continue, return to the Online Lesson.