Perform arithmetic operations on polynomials. Focus on polynomial expressions that simplify to forms that are linear or quadratic in a positive integer power of *x* (Standard A.APR.1)

**Standard A.APR.1:** Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.

# Concepts and Skills to Master

- Add, subtract and multiply polynomials.
- Understand closure of polynomials for addition, subtraction, and multiplication (for example, extend properties of arithmetic to polynomial arithmetic).

Related Standards: Current Course	Related Standards: Future Courses
II.A.SSE.1, II.N.RN.3, II.N.CN.1, II.N.CN.2, II.F.BF.1b	III.N.CN.8, III.A.SSE.1, III.A.APR.2, III.A.APR.3, III.A.APR.4,
	III.A.APR.5, III.A.APR.6, III.A.APR.7, P.N.CN.3, P.N.CN.5,
	P.N.CN.10

#### **Support for Teachers**

# Critical Background Knowledge

- Apply properties of operations as strategies to add, subtract (1.OA.3, 2.OA.2) and multiply (3.OA.5) using the associative, commutative and distributive properties; extend to rational numbers (7.NS)
- Apply properties of operations (to combine terms) and generate equivalent expressions (6.EE.3, I.A.REI.5)
- Combine function types using arithmetic operations (<u>I.F.BF.1b</u>)

# **Academic Vocabulary**

#### closure

#### Resources

<u>Curriculum Resources</u>: https://www.uen.org/core/core.do?courseNum=5620#71472