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**
- A.A.SSE.1, N.RN.3, N.CN.1, N.CN.2, F.BF.1b

**Related Standards: Future Courses**
- N.CN.8, A.SSE.1, A.APR.2, A.APR.3, A.APR.4, A.APR.5, A.APR.6, 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 (I.F.BF.1b)

**Academic Vocabulary**
- closure

**Resources**
- **Curriculum Resources:** https://www.uen.org/core/core.do?courseNum=5620#71472