Designing Learning for All Template

Grade Level & Content Area: 9th - 12th, Algebra II TAP - Polynomial Operations & Factoring			
Essential Learning Target: **Readiness TEKS**	Verbs: Level of Thinking	Nouns: Academic Vocabulary	Prerequisite Skills: What do they need to know before
2A.7F - determine the sum, difference, product and quotient of rational expressions with integral exponents of degree one and degree two; 2A.7B - add, subtract and multiply polynomials; 2A.7C - determine quotient of polynomial of degree three and degree four when divided by a polynomial of degree one and degree two	Add Subtract Multiply (cube, square) Divide	Rational expression Polynomial Monomial Binomial Trinomial Variable Coefficient Constant Difference of Sum of Product of Quotient of Standard Form	Combining like terms

Essential Questions:	Assessment Question Stems / Examples: Look at summative assessments & STAAR/EOC questions
• How can you cube a binomial? • How can you use the factors of a cubic polynomial to solve a division problem involving polynomials? • What are strategies for questions involving multiple exponent rules?	What are the key parts of the polynomial (standard form, degree, name)? What is the simplified form of the expression ___ where all values of $m, n, x, y,$ and z are defined? What is the perimeter/area/volume of the figure?

Learning Goal / Big Idea or Concept:	Success criteria/ “I can...” statement (what mastery looks like.)
Simplify expressions involving exponent rules Add, Subtract, Multiply and Divide Polynomials	• I can add and subtract polynomials by combining like terms. • I can multiply polynomials using the distributive property. • I can divide polynomials using exponent rules to apply long division (and synthetic division).

Evidence of Learning / Feedback & Coaching Opportunities: Based on formative assessment data, how are you going to reteach?	Formative Assessments:
• Warm Ups/lesson engagers • Think-Pair-Share	Check-Point Quizzes (mini-quiz) Daily Worksheet or Exit Ticket Unit Quiz Unit Test

Possible Misconceptions / Clean Up Strategies:	Re-engagement Opportunities: Independent, guided, small group, stations, etc.
• Mixing up exponent rules • Forgetting placeholders (zeros) for terms that are missing in long division • Multiplying exponents instead of adding when distributing variables • Not distributing negative sign with a number	• Have students make a kahoot or quizlet to help review exponent rules/properties.

Practice Opportunities / Stations:	Extend/Enrich Opportunities: Based on formative assessment data, how are you going to extend learning? (menu?)
Interventions: • Encourage students to highlight or draw symbols around like terms when adding or subtracting polynomials. Make sure students include the preceding sign. • Use the Puzzle Time activity to practice sum, difference, product of polynomials • To practice long division, access this web page. They can work out the problem on a sheet of paper then use the check solution option. If they do not get the correct solution they can then select the complete solution to compare their work. • Use Puzzle Time for additional practice that provides the support of an answer back to help students self check. • Have students who are struggling go back to the basics and practice FOIL then reverse FOIL. Then scaffold other factoring methods as ready. • Create Anchor Charts to display methods for factoring • Use Multiplying and Factoring matching cards for additional practice making connections between both operations.	Enrichment: • Multiplying Polynomials Enrichment • Have students create Anchor Charts using google draw to remember the steps needed for long division and synthetic division • Factoring enrichment and extension practice sheet. Use flexible grouping target all learning levels. Use this activity for the enrichment group. • Create Anchor Charts to display methods for factoring • Have students create their own problems to factor for each method by working backwards. Trade with a partner to solve.