Alg2CP Unit 05 (Chapter 8): Rational Functions

Content Area: Math

Course(s): Level 1 Engineering Drawing, Algebra 2 CP, Algebra 2 A, Algebra 2 H

Time Period: Marking Period 2

Length: **4 weeks** Status: **Published**

Unit Introduction

Standards

Interpret parts of an expression, such as terms, factors, and coefficients.
Interpret complicated expressions by viewing one or more of their parts as a single entity.
Use the structure of an expression to identify ways to rewrite it. For example, see $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2)$.
Rewrite simple rational expressions in different forms; write $a(x)/b(x)$ in the form $q(x) + r(x)/b(x)$, where $a(x)$, $b(x)$, $q(x)$, and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$, using inspection, long division, or, for the more complicated examples, a computer algebra system.
Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.
Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.
Explain why the x -coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.

Essential Questions

• Are a rational expression and its simplified form equivalent?

Content

- Sec 8.4 Rational Expressions (pg. 527)
- Sec 8.5 Adding and Subtracting Rational Expressions (pg. 534)
- Sec 8.6 Solving Rational Equations (pg. 542)

Skills

- Add/Subtract Rational Expressions
- Add/Subtract Rational Expressions
- Factor polynomials
- Multiply/Divide Rational Expressions
- Simplify rational expressions