

Algebra II Scope and Sequence Aligned to SATEC Resources—DRAFT (4/06)

Rational Functions (3 weeks)

This unit includes equations, inequalities, and systems. There should be an emphasis on the connection between the 5 representations: graph, table, problem situation, pictorial, symbolic. Within this unit, connections to foundations for functions and how all functions have same traits should be made.

Objective	TEKS	TEKS Clarification	TAKS Objective	SATEC Lesson / Resources ¹	SATEC Correlated Assessments	Dana Center Assessments	Resources / Text
Identify and sketch the rational parent function.	2A.4A	Revisit data activity from Foundations for Functions and reinforce common function characteristics.	Objectives 1, 2	Fade Away! Stuff It!	Fade Away!: Reflect and Apply		Algebra II Institute: Part A: II. 1.1
Use quotients to describe the graphs of rational functions, describe limitations of domain and range of rational functions, and examine asymptotic behavior.	2A.4A, 2A.10A	Revisit data to extend the investigation of rational functions to include writing equations, graphing and translating functions, and analyzing parameter changes in the context of situations.		Fade Away! Stuff It!	Fade Away!: Reflect and Apply		Parameter Changes—Asymptotes
Investigate, describe and predict the effects of parameter changes on the rational function.	2A.4B	Investigation of graphs of rational functions is limited to $f(x) = a/(x-h) + k$				What Is My Equation?	Parameter Changes—Asymptotes Calculator Exploration
For a given problem situation, analyze the various representations for the situation.	2A.10B	Limitations on domain and range are limited to vertical and horizontal asymptotes.		Fade Away! Stuff It!	Fade Away!: Reflect and Apply	Saline Solution	
For a given application, determine the independent and dependent variables and analyze the possible domain	2A.10C	Adding and subtracting rational expressions is not required for solving rational equations unless it involves common denominators. Compare direct and inverse		Fade Away! Stuff It!	Fade Away!: Reflect and Apply	Pizza Pizza Wars Part 2. You Are	

¹ The SATEC Resources and Coordinated Assessments are available on the Mathematics TEKS Toolkit at www.mathtekstoolkit.org/instruction/scope/alg2scope/satec.php. The Dana Center Assessments are on the toolkit at www.mathtekstoolkit.org/instruction/alg2.php.

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and range values and solutions appropriate for the given situation.		variations in a given problem situation. (include both $y = k/x$ and $y = k/x^2$). Use technology such as graphing calculators and/or computers to link multiple representations.				Toast, Dude		
Solve rational equations using tables, graphs, and algebraic methods.	2A.10D			Fade Away! Stuff It!	Fade Away!: Reflect and Apply			
Analyze a situation modeled by a rational function, formulate an equation or inequality and solve the system problems.	2A.10F			Fade Away! Stuff It!	Fade Away!: Reflect and Apply	Paintings on the Wall		
Use direct and inverse variations to solve problems.	2A.10G							
For a given application, identify the mathematical domain and range and the domain and range for the situation.	2A.1A			Fade Away! Stuff It!	Fade Away!: Reflect and Apply			
Collect and organize data, make scatterplots, fit the curve to a function, interpret the results, and model, predict, and make decisions.	2A.1B			Fade Away! Stuff It!	Fade Away!: Reflect and Apply			
Recognize that functions can be denoted in many forms: $y =$, $d =$, $y =$ and $f(x) =$ and determine which form is the most appropriate for a given situation.	(Moved to Alg1)							

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Perceive functions and equations as means for analyzing and understanding relationships and as a tool for expressing generalizations.	BU A3			Fade Away! Stuff It!	Fade Away!: Reflect and Apply		
Use a variety of representations, tools, and technology and model situations to solve problems.	BU A5			Fade Away! Stuff It!	Fade Away!: Reflect and Apply		
Use math processes throughout, including problem solving, computation, communication, connections, reasoning, multiple representations, modeling, and justification.	BU A6			Fade Away! Stuff It!	Fade Away!: Reflect and Apply		