

TCAP-EOC Algebra II Framework

Reporting Category 1: Mathematical Processes		%	# of Items
		12 - 16%	6 - 8
3103.1.1	Move flexibly between multiple representations (contextual, physical, written, verbal, iconic/pictorial, graphical, tabular, and symbolic) of non-linear and transcendental functions to solve problems, to model mathematical ideas, and to communicate solution strategies.		
3103.1.2	Recognize and describe errors in data collection and analysis as well as identifying representations of data as being accurate or misleading.		
3103.1.3	Use technology tools to identify and describe patterns in data using non-linear and transcendental functions that approximate data as well as using those functions to solve contextual problems.		
3103.1.4	Use mathematical language, symbols, definitions, proofs and counterexamples correctly and precisely to effectively communicate reasoning in the process of solving problems via mathematical modeling with both linear and non-linear functions.		

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Reporting Category 2: Number and Operations		%	# of Items
		10-12%	5-6
3103.2.2	Compute with all real and complex numbers.		
3103.2.3	Use the number system, from real to complex, to solve equations and contextual problems.		

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Reporting Category 3: Algebra		%	# of Items
		44 - 50%	22 - 25
3103.3.1	Add, subtract and multiply polynomials; divide a polynomial by a lower degree polynomial.		
3103.3.2	Solve quadratic equations and systems, and determine roots of a higher order polynomial.		
3103.3.3	Add, subtract, multiply, divide and simplify rational expressions including those with rational and negative exponents.		
3103.3.4	Use the formulas for the general term and summation of finite arithmetic and both finite and infinite geometric series.		
3103.3.5	Describe the domain and range of functions and articulate restrictions imposed either by the operations or by the contextual situations which the functions represent.		
3103.3.7	Identify whether a function has an inverse, whether two functions are inverses of each other, and/or explain why their graphs are reflections over the line $y = x$.		
3103.3.8	Solve systems of three linear equations in three variables.		
3103.3.9	Graph the solution set of two or three linear or quadratic inequalities.		
3103.3.12	Interpret graphs that depict real-world phenomena.		
3103.3.13	Solve contextual problems using quadratic, rational, radical and exponential equations, finite geometric series or systems of equations.		

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Reporting Category 4: Geometry and Measurement		%	# of Items
		10-12%	5-6
3103.4.1	Exhibit knowledge of unit circle trigonometry.		
3103.4.2	Match graphs of basic trigonometric functions with their equations		

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Reporting Category 5: Data Analysis, Statistics, and Probability		%	# of Items
		16 - 18%	8 - 9
3103.5.1	Compute, compare and explain summary statistics for distributions of data including measures of center and spread.		
3103.5.2	Compare data sets using graphs and summary statistics.		
3103.5.3	Analyze patterns in a scatter-plot and describe relationships in both linear and non-linear data.		
3103.5.4	Apply the characteristics of the normal distribution.		
3103.5.5	Determine differences between randomized experiments and observational studies.		
3103.5.7	Determine/recognize when the correlation coefficient measures goodness of fit.		
3103.5.8	Apply probability concepts such as conditional probability and independent events to calculate simple probability.		