

Algebra II

Standard	Below Basic	Basic	Proficient	Advanced
Standards	Students who perform at this level have not demonstrated mastery in academic performance, thinking abilities, and application of understandings that reflect the knowledge and skills specified by the grade/course level content standards and are not prepared for the next level of study.	Students who perform at this level demonstrate partial mastery in academic performance, thinking abilities, and application of understandings that reflect the knowledge and skills specified by the grade/course level content standards and are minimally prepared for the next level of study.	Students who perform at this level demonstrate mastery in academic performance, thinking abilities, and application of understandings that reflect the knowledge and skills specified by the grade/course level content standards and are well prepared for the next level of study.	Students who perform at this level demonstrate superior mastery in academic performance, thinking abilities, and application of understandings that reflect the knowledge and skills specified by the grade/course level content standards and are significantly prepared for the next level of study.
Mathematical Processes Algebra II	The student has not demonstrated an ability to use technology to find and use mathematical models of non-linear bivariate data.	The student uses technology to find a mathematical model that best fits bivariate data using non-linear functions (including transcendental functions).	The student uses mathematical language appropriately in reasoning and interpretation. The student translates among multiple representations of algebraic functions. The student uses technology to identify and describe patterns in data using non-linear and transcendental functions that approximate bivariate data.	The student uses mathematical language and axiomatic structure appropriately in reasoning and interpretation. The student translates among multiple representations of algebraic and transcendental functions. The student uses technology to find mathematical models of non-linear bivariate data to solve contextual problems.
Number and Operations Algebra II	The student has not demonstrated the skills necessary to perform operations with complex numbers and algebraic expressions.	The student simplifies, adds, and subtracts complex numbers. The student uses the number system, from real to complex, to solve basic quadratic equations.	The student simplifies and performs operations on complex numbers. The student can represent a complex number in the complex plane. The student uses the number system, from real to complex, to solve equations.	The student connects numeric, analytic, graphical, and verbal representations of both real and complex numbers. The student uses the number system, from real to complex, to solve contextual problems.

<p>Algebra Algebra II</p>	<p>The student has not demonstrated the ability to understand, analyze, transform, and generalize mathematical patterns, relations, and functions.</p>	<p>The student demonstrates a procedural understanding of algebra. The student determines the inverse of basic functions including the inverse of a simple exponential function. The student identifies and graphs the four conic sections centered at the origin. The student calculates the nth term of an arithmetic or geometric series. The student simplifies rational expressions by factoring.</p>	<p>The student performs all operations with polynomials. The student solves systems of equations involving quadratics or three variables. The student determines the rational zeros of a polynomial function. The student solves exponential equations. The student translates the graphs of conic sections. The student calculates the sum of a finite arithmetic and a finite geometric series. The student performs operations on rational expressions including those with rational and negative exponents. The student factors polynomials using a variety of methods.</p>	<p>The student identifies and analyzes distinguishing properties of exponential, polynomial, rational, and radical functions including articulating restrictions on variables. The student analyzes and identifies the key characteristics of conic sections. The student effectively uses the binomial theorem. The student solves mathematical or contextual problems using quadratic, rational, radical, and exponential equations, finite or infinite geometric series or systems of equations.</p>
<p>Geometry and Measurement Algebra II</p>	<p>The student has not demonstrated an ability to use and understand the trigonometric functions.</p>	<p>The student identifies the graphs of sine, cosine, and tangent functions. The student can determine the sine and cosine of the quadrantal angles using the unit circle. The student identifies the coefficient of a sine or cosine equation that affects the amplitude or the period of the graph.</p>	<p>The student demonstrates knowledge of the unit circle trigonometry. The student determines the domain and range of the six basic trigonometric functions given their graphs. The student determines the amplitude of a sine or cosine function and the period of any trigonometric function.</p>	<p>The student describes and articulates the characteristics and parameters of parent trigonometric functions. The student solves contextual problems using various representations of trigonometric functions.</p>
<p>Data Analysis, Statistics, and Probability Algebra II</p>	<p>The student has not demonstrated an ability to describe, interpret, and apply quantitative data.</p>	<p>The student reads, interprets and creates statistical graphs. The student calculates the measures of central tendency. The student finds the indicated regression</p>	<p>The student calculates, interprets, and uses measures of central tendency and spread, including variance and standard deviation. The student uses</p>	<p>The student uses data and statistical thinking to draw inferences, make predictions, and justify conclusions. The student interprets the correlation</p>

		curve to fit a given set of linear or non-linear data using technology.	regression curves that best fit data (linear or non-linear) to make predictions. The student applies the characteristics of the normal distribution. The student distinguishes between dependent and independent events.	coefficient for a regression line. The student calculates conditional and compound probabilities.
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