SAVVAS

A Correlation of

MyMathLab® for School Algebra II

Martin-Gay

MyMathLab® for School

to the

TNCore

Common Core State Standards for Mathematics - High School

PARRC Model Content Frameworks Mathematics Algebra II

Savvas is proud to partner with Pearson to offer the best in AP, honors, and electives products.

A Correlation of MyMathLab® for School, Algebra II (Martin-Gay) ©2016
to the TNCore Common Core State Standards for Mathematics - High School
PARRC Model Content Frameworks Mathematics Algebra II

TNCore Common Core State Standards for Mathematics - High School PARRC Model Content Frameworks Mathematics Algebra II	**MyMathLab® for School, Algebra II ©2016**
Number and Quantity	
The Real Number System N –RN	
Extend the properties of exponents to rational exponents.	
1. Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. For example, we define $5^{1/3}$ to be the cube root of 5 because we want $(5^{1/3})^3 = 5^{(1/3)3}$ to hold, so $(5^{1/3})^3$ must equal 5.	**SE/TE: 8.2:** Rational Exponents, **10.3:** Exponential Functions
2. Rewrite expressions involving radicals and rational exponents using the properties of exponents.	**SE/TE: 8.2:** Rational Exponents, **8.3:** Simplifying Radical Expressions, **8.4:** Adding, Subtracting, and Multiplying Radical Expressions, **8.5:** Rationalizing Denominators and Numerators of Radical Expressions, **8.6:** Radical Equations and Problem Solving
Quantities★ N -Q	
Reason quantitatively and use units to solve problems.	
2. Define appropriate quantities for the purpose of descriptive modeling.	**SE/TE: 1.1:** Tips for Success in Mathematics, **1.2:** Algebraic Expressions and Sets of Numbers, **2.1:** Linear Equations in One Variable, **2.2:** An Introduction to Problem Solving, **2.3:** Formulas and Problem Solving, **3.1:** Graphing Equations, **3.2:** Introduction to Functions, **3.3:** Graphing Linear Functions, **4.3:** Systems of Linear Equations and Problem Solving, **4.5:** Linear Programming, **6.8:** Solving Equations by Factoring and Problem Solving, **7.5:** Solving Equations Containing Rational Expressions, **7.6:** Rational Equations and Problem Solving, **7.7:** Variation and Problem Solving, **8.6:** Radical Equations and Problem Solving, **8.8:** Standard Deviation, **10.7:** Exponential and Logarithmic Equations and Applications, **11.1:** Quadratic Functions and Their Graphs, **11.2:** Further Graphing of Quadratic Functions, **11.5:** The Parabola and the Circle, **11.6:** The Ellipse and the Hyperbola, **13.4:** Fundamentals of Probability, **13.5:** Probability with the Fundamental Counting Principle, Permutations, and Combinations, **13.6:** Events Involving *Not* and *Or;* Odds, **13.7:** Events Involving *And;* Conditional Probability, **13.8:** The Normal Distribution, **14.2:** Right Angle Trigonometry, **14.8:** Applications of Trigonometric Functions, **15.5:** The Law of Sines, **15.6:** The Law of Cosines

★ indicates modeling standards
SE = Student Edition
TE = Teacher's Edition

TNCore Common Core State Standards for Mathematics - High School PARRC Model Content Frameworks Mathematics Algebra II	**MyMathLab® for School, Algebra II ©2016**
The Complex Number System N -CN	
Perform arithmetic operations with complex numbers.	
1. Know there is a complex number *i* such that $i^2 = -1$, and every complex number has the form $a + bi$ with *a* and *b* real.	**SE/TE: 8.7:** Complex Numbers, **9.5:** The Fundamental Theorem of Algebra
2. Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.	**SE/TE: 8.7:** Complex Numbers, **9.2:** Solving Quadratic Equations by the Quadratic Formula, **9.3:** Solving Equations by Using Quadratic Methods, **9.5:** The Fundamental Theorem of Algebra
Use complex numbers in polynomial identities and equations.	
7. Solve quadratic equations with real coefficients that have complex solutions.	**SE/TE: 9.2:** Solving Quadratic Equations by the Quadratic Formula, **9.3:** Solving Equations by Using Quadratic Methods, **9.5:** The Fundamental Theorem of Algebra
Algebra	
Seeing Structure in Expressions A-SSE	
Interpret the structure of expressions	
2. 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 $(x^2 - y^2)(x^2 + y^2)$.	**SE/TE: 6.4:** Multiplying Polynomials, **6.5:** The Greatest Common Factor and Factoring by Grouping, **6.6:** Factoring Trinomials, **6.7:** Factoring by Special Products, **6.8:** Solving Equations by Factoring and Problem Solving, **7.3:** Simplifying Complex Fractions, **8.2:** Rational Exponents, **8.3:** Simplifying Radical Expressions
Write expressions in equivalent forms to solve problems	
3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.★	**SE/TE: 6.4:** Multiplying Polynomials, **6.5:** The Greatest Common Factor and Factoring by Grouping, **6.6:** Factoring Trinomials, **6.7:** Factoring by Special Products, **6.8:** Solving Equations by Factoring and Problem Solving, **7.3:** Simplifying Complex Fractions, **8.3:** Simplifying Radical Expressions, **12.1:** Sequences, **12.2:** Arithmetic and Geometric Sequences
c. Use the properties of exponents to transform expressions for exponential functions. For example the expression 1.15^t can be rewritten as $(1.15^{1/12})^{12t} \approx 1.012^{12t}$ to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.	**SE/TE: 10.3:** Exponential Functions, **10.7:** Exponential and Logarithmic Equations and Applications

TNCore Common Core State Standards for Mathematics - High School PARRC Model Content Frameworks Mathematics Algebra II	MyMathLab® for School, Algebra II ©2016
4. Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems. For example, calculate mortgage payments.★	**SE/TE: 10.7:** Exponential and Logarithmic Equations and Applications, **12.2:** Arithmetic and Geometric Sequences, **12.3:** Series
Arithmetic with Polynomials and Rational Expressions A -APR	
Perform arithmetic operations on polynomials	
Understand the relationship between zeros and factors of polynomials	
2. Know and apply the Remainder Theorem: For a polynomial p(x) and a number a, the remainder on division by x – a is p(a), so p(a) = 0 if and only if (x – a) is a factor of p(x).	**SE/TE: 7.4:** Dividing Polynomials: Long Division and Synthetic Division, **9.4:** Zeros of Polynomial Functions, **9.5:** The Fundamental Theorem of Algebra
3. Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.	**SE/TE: 9.1:** Solving Quadratic Equations by Completing the Square, **9.2:** Solving Quadratic Equations by the Quadratic Formula, **9.3:** Solving Equations by Using Quadratic Methods, **9.4:** Zeros of Polynomial Functions, **9.5:** The Fundamental Theorem of Algebra
Use polynomial identities to solve problems	
4. Prove polynomial identities and use them to describe numerical relationships. For example, the polynomial identity $(x^2 + y^2)^2 = (x^2 – y^2)^2 + (2xy)^2$ can be used to generate Pythagorean triples.	**SE/TE: 6.5:** The Greatest Common Factor and Factoring by Grouping, **6.6:** Factoring Trinomials, **6.7:** Factoring by Special Products, **6.8:** Solving Equations by Factoring and Problem Solving
Rewrite rational expressions	
6. 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.	**SE/TE: 7.1:** Rational Functions and Multiplying and Dividing Rational Expressions, **7.2:** Adding and Subtracting Rational Expressions, **7.3:** Simplifying Complex Fractions, **7.4:** Dividing Polynomials: Long Division and Synthetic Division, **7.5:** Solving Equations Containing Rational Expressions

★ indicates modeling standards

SE = Student Edition

TE = Teacher's Edition

TNCore Common Core State Standards for Mathematics - High School PARRC Model Content Frameworks Mathematics Algebra II	**MyMathLab® for School, Algebra II ©2016**
Creating Equations★ A -CED	
Create equations that describe numbers or relationships	
1. Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.	**SE/TE: 2.1:** Linear Equations in One Variable, **2.2:** An Introduction to Problem Solving, **2.4:** Linear Inequalities and Problem Solving, **2.5:** Compound Inequalities, **2.6:** Absolute Value Equations, **2.7:** Absolute Value Inequalities, **5.1:** Matrix Operations and Solving Matrix Equations, **5.5:** Matrix Equations, **6.8:** Solving Equations by Factoring and Problem Solving, **7.5:** Solving Equations Containing Rational Expressions, **7.6:** Rational Equations and Problem Solving, **7.7:** Variation and Problem Solving, **8.6:** Radical Equations and Problem Solving, **9.1:** Solving Quadratic Equations by Completing the Square, **9.2:** Solving Quadratic Equations by the Quadratic Formula, **9.3:** Solving Equations by Using Quadratic Methods, **10.7:** Exponential and Logarithmic Equations and Applications, **15.4:** Trigonometric Equations
Reasoning with Equations and Inequalities A -RE I	
Understand solving equations as a process of reasoning and explain the reasoning	
1. Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.	**SE/TE: 2.1:** Linear Equations in One Variable, **2.2:** An Introduction to Problem Solving, **2.6:** Absolute Value Equations, **5.1:** Matrix Operations and Solving Matrix Equations, **5.5:** Matrix Equations, **6.8:** Solving Equations by Factoring and Problem Solving, **7.5:** Solving Equations Containing Rational Expressions, **7.6:** Rational Equations and Problem Solving, **7.7:** Variation and Problem Solving, **8.6:** Radical Equations and Problem Solving, **9.1:** Solving Quadratic Equations by Completing the Square, **9.2:** Solving Quadratic Equations by the Quadratic Formula, **9.3:** Solving Equations by Using Quadratic Methods, **10.7:** Exponential and Logarithmic Equations and Applications, **15.4:** Trigonometric Equations
2. Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.	**SE/TE: 7.6:** Rational Equations and Problem Solving, **7.7:** Variation and Problem Solving, **8.6:** Radical Equations and Problem Solving

TNCore Common Core State Standards for Mathematics - High School PARRC Model Content Frameworks Mathematics Algebra II	**MyMathLab® for School, Algebra II ©2016**
Solve equations and inequalities in one variable	
4. Solve quadratic equations in one variable.	**SE/TE: 9.1:** Solving Quadratic Equations by Completing the Square, **9.2:** Solving Quadratic Equations by the Quadratic Formula, **9.3:** Solving Equations by Using Quadratic Methods
b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as a ± bi for real numbers a and b.	**SE/TE: 9.1:** Solving Quadratic Equations by Completing the Square, **9.2:** Solving Quadratic Equations by the Quadratic Formula, **9.3:** Solving Equations by Using Quadratic Methods
Solve systems of equations	
6. Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.	**SE/TE: 4.1:** Solving Systems of Linear Equations in Two Variables, **4.2:** Solving Systems of Linear Equations in Three Variables, **4.3:** Systems of Linear Equations and Problem Solving
7. Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. For example, find the points of intersection between the line $y = -3x$ and the circle $x^2 + y^2 = 3$.	**SE/TE: 11.7:** Solving Nonlinear Systems of Equations, **11.8:** Nonlinear Inequalities and Systems of Inequalities
Represent and solve equations and inequalities graphically	
11. 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.★	**SE/TE: 4.1:** Solving Systems of Linear Equations in Two Variables, **4.2:** Solving Systems of Linear Equations in Three Variables, **4.3:** Systems of Linear Equations and Problem Solving, **11.7:** Solving Nonlinear Systems of Equations, **11.8:** Nonlinear Inequalities and Systems of Inequalities
Functions	
Interpreting Functions F-IF	
Understand the concept of a function and use function notation	
3. Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. For example, the Fibonacci sequence is defined recursively by f(0) = f(1) = 1, f(n+1) = f(n) + f(n-1) for n ≥ 1.	**SE/TE: 12.1:** Sequences, **12.2:** Arithmetic and Geometric Sequences, **12.3:** Series, **12.4:** Partial Sums of Arithmetic and Geometric Sequences

TNCore Common Core State Standards for Mathematics - High School PARRC Model Content Frameworks Mathematics Algebra II	**MyMathLab® for School, Algebra II ©2016**
Interpret functions that arise in applications in terms of the context	
4. For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.★	**SE/TE: 3.3:** Graphing Linear Functions, **3.6:** Graphing Piecewise-Defined Functions and Shifting and Reflecting Graphs of Functions, **6.3:** Polynomials and Polynomial Functions, **7.1:** Rational Functions and Multiplying and Dividing Rational Expressions, **8.1:** Radicals and Radical Functions, **9.4:** Zeros of Polynomial Functions, **10.3:** Exponential Functions, **10.4:** Logarithmic Functions, **11.1:** Quadratic Functions and Their Graphs, **11.2:** Further Graphing of Quadratic Functions, **11.3:** Graphing Rational Functions by Transformations, **11.4:** Further Graphing of Rational Functions
6. Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.★	**SE/TE: 3.4:** The Slope of the Line, **10.6:** Common Logarithms, Natural Logarithms, and Change of Base
Analyze functions using different representations	
7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.★	**SE/TE: 3.3:** Graphing Linear Functions, **3.6:** Graphing Piecewise-Defined Functions and Shifting and Reflecting Graphs of Functions, **6.3:** Polynomials and Polynomial Functions, **8.1:** Radicals and Radical Functions, **9.4:** Zeros of Polynomial Functions, **10.3:** Exponential Functions, **10.4:** Logarithmic Functions, **11.1:** Quadratic Functions and Their Graphs, **11.2:** Further Graphing of Quadratic Functions, **11.3:** Graphing Rational Functions by Transformations, **11.4:** Further Graphing of Rational Functions, **14.5:** Graphs of Sine and Cosine Functions, **14.6:** Graph of the Tangent Function, **14.7:** Inverse Trigonometric Functions
c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.	**SE/TE: 6.3:** Polynomials and Polynomial Functions, **9.4:** Zeros of Polynomial Functions, **11.1:** Quadratic Functions and Their Graphs, **11.2:** Further Graphing of Quadratic Functions, **11.3:** Graphing Rational Functions by Transformations
e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.	**SE/TE: 10.3:** Exponential Functions, **10.4:** Logarithmic Functions, **14.5:** Graphs of Sine and Cosine Functions, **14.6:** Graph of the Tangent Function, **14.7:** Inverse Trigonometric Functions

TNCore Common Core State Standards for Mathematics - High School PARRC Model Content Frameworks Mathematics Algebra II	MyMathLab® for School, Algebra II ©2016
8. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.	**SE/TE: 3.3:** Graphing Linear Functions, **3.4:** The Slope of the Line, **3.5:** Equations of Lines, **9.4:** Zeros of Polynomial Functions, **10.3:** Exponential Functions, **10.4:** Logarithmic Functions, **11.1:** Quadratic Functions and Their Graphs, **11.2:** Further Graphing of Quadratic Functions
b. Use the properties of exponents to interpret expressions for exponential functions. For example, identify percent rate of change in functions such as $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)^{12t}$, $y = (1.2)^{t/10}$, and classify them as representing exponential growth or decay.	**SE/TE: 6.1:** Exponents and Scientific Notation, **6.2:** More Work with Exponents and Scientific Notation, **10.3:** Exponential Functions, **10.7:** Exponential and Logarithmic Equations and Applications
9. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.	**SE/TE: 3.3:** Graphing Linear Functions, **10.3:** Exponential Functions, **10.4:** Logarithmic Functions, **11.1:** Quadratic Functions and Their Graphs, **11.2:** Further Graphing of Quadratic Functions
Building Functions F-BF	
Build a function that models a relationship between two quantities	
1. Write a function that describes a relationship between two quantities.★	**SE/TE: 3.2:** Introduction to Functions, **3.3:** Graphing Linear Functions, **3.5:** Equations of Lines, **3.6:** Graphing Piecewise-Defined Functions and Shifting and Reflecting Graphs of Functions, **6.3:** Polynomials and Polynomial Functions, **7.1:** Rational Functions and Multiplying and Dividing Rational Expressions, **8.1:** Radicals and Radical Functions, **9.4:** Zeros of Polynomial Functions, **10.3:** Exponential Functions, **10.4:** Logarithmic Functions, **11.1:** Quadratic Functions and Their Graphs, **11.2:** Further Graphing of Quadratic Functions, **11.3:** Graphing Rational Functions by Transformations, **11.4:** Further Graphing of Rational Functions
a. Determine an explicit expression, a recursive process, or steps for calculation from a context.	**SE/TE: 1.2:** Algebraic Expressions and Sets of Numbers, **6.4:** Multiplying Polynomials, **6.5:** The Greatest Common Factor and Factoring by Grouping, **6.6:** Factoring Trinomials, **6.7:** Factoring by Special Products**, 7.5:** Solving Equations Containing Rational Expressions, **7.7:** Variation and Problem Solving**,** **12.1:** Sequences, **12.2:** Arithmetic and Geometric Sequences

★ indicates modeling standards

SE = Student Edition

TE = Teacher's Edition

TNCore Common Core State Standards for Mathematics - High School PARRC Model Content Frameworks Mathematics Algebra II	**MyMathLab® for School, Algebra II ©2016**
b. Combine standard function types using arithmetic operations. For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.	**SE/TE: 10.1:** The Algebra of Functions; Composite Functions, **10.2:** Inverse Functions
2. Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.★	**SE/TE: 12.1:** Sequences, **12.2:** Arithmetic and Geometric Sequences
Build new functions from existing functions	
3. Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them.	**SE/TE: 3.6:** Graphing Piecewise-Defined Functions and Shifting and Reflecting Graphs of Functions, **11.2:** Further Graphing of Quadratic Functions, **11.3:** Graphing Rational Functions by Transformations, **14.5:** Graphs of Sine and Cosine Functions, **14.6:** Graph of the Tangent Function
4. Find inverse functions.	**SE/TE: 10.2:** Inverse Functions, **10.4:** Logarithmic Functions, **14.7:** Inverse Trigonometric Functions
a. Solve an equation of the form f(x) = c for a simple function f that has an inverse and write an expression for the inverse. For example, $f(x) = 2x^3$ or $f(x) = (x+1)/(x-1)$ for $x \neq 1$.	**SE/TE: 10.2:** Inverse Functions, **10.4:** Logarithmic Functions, **14.7:** Inverse Trigonometric Functions
Linear, Quadratic, and Exponential Models★ F –LE	
Construct and compare linear, quadratic, and exponential models and solve problems	
2. Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).	**SE/TE: 3.3:** Graphing Linear Functions, **3.5:** Equations of Lines, **10.3:** Exponential Functions, **10.7:** Exponential and Logarithmic Equations and Applications, **12.1:** Sequences, **12.2:** Arithmetic and Geometric Sequences
4. For exponential models, express as a logarithm the solution to $ab^{ct} = d$ where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm using technology.	**SE/TE: 10.3:** Exponential Functions, **10.7:** Exponential and Logarithmic Equations and Applications
Interpret expressions for functions in terms of the situation they model	
5. Interpret the parameters in a linear or exponential function in terms of a context.	**SE/TE: 3.3:** Graphing Linear Functions, **3.5:** Equations of Lines, **10.3:** Exponential Functions, **10.7:** Exponential and Logarithmic Equations and Applications, **12.1:** Sequences, **12.2:** Arithmetic and Geometric Sequences

TNCore Common Core State Standards for Mathematics - High School PARRC Model Content Frameworks Mathematics Algebra II	MyMathLab® for School, Algebra II ©2016
Trigonometric Functions F-TF	
Extend the domain of trigonometric functions using the unit circle	
1. Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle.	**SE/TE: 14.1:** Angles and Radian Measure, **14.4:** Trigonometric Functions of Real Numbers; Periodic Functions
2. Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.	**SE/TE: 14.4:** Trigonometric Functions of Real Numbers; Periodic Functions
Model periodic phenomena with trigonometric functions	
5. Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.★	**SE/TE: 14.5:** Graphs of Sine and Cosine Functions, **14.6:** Graph of the Tangent Function, **14.8:** Applications of Trigonometric Functions
Prove and apply trigonometric identities	
8. Prove the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use it to find $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ given $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ and the quadrant of the angle.	**SE/TE: 14.2:** Right Angle Trigonometry, **15.1:** Verifying Trigonometric Identities
Geometry	
Expressing Geometric Properties with Equations G-GPE	
Translate between the geometric description and the equation for a conic section	
2. Derive the equation of a parabola given a focus and directrix.	**SE/TE: 11.5:** The Parabola and the Circle
Statistics and Probability	
Interpreting Categorical and Quantitative Data S-ID	
Summarize, represent, and interpret data on a single count or measurement variable	
4. Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.	**SE/TE: 8.8:** Standard Deviation, **13.8:** The Normal Distribution
Recognize possible associations and trends in the data.	
6. Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.	**SE/TE: 3.2:** Introduction to Functions, **14.6:** Graph of the Tangent Function

TNCore Common Core State Standards for Mathematics - High School PARRC Model Content Frameworks Mathematics Algebra II	MyMathLab® for School, Algebra II ©2016
a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.	**SE/TE: 3.2:** Introduction to Functions
Making Inferences and Justifying Conclusions S-IC	
Understand and evaluate random processes underlying statistical experiments	
1. Understand statistics as a process for making inferences about population parameters based on a random sample from that population.	**SE/TE: 8.8:** Standard Deviation, **13.8:** The Normal Distribution, **Appendix B:** Surveys and Margins of Error
2. Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?	**SE/TE: 8.8:** Standard Deviation, **13.8:** The Normal Distribution
Make inferences and justify conclusions from sample surveys, experiments, and observational studies	
3. Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.	**SE/TE: Appendix B:** Surveys and Margins of Error
4. Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling.	**SE/TE: Appendix B:** Surveys and Margins of Error
5. Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.	**SE/TE: Appendix B:** Surveys and Margins of Error
6. Evaluate reports based on data.	**SE/TE: Appendix B:** Surveys and Margins of Error
Conditional Probability and the Rules of Probability S-CP	
Understand independence and conditional probability and use them to interpret data	
1. Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not").	**SE/TE: 13.4:** Fundamentals of Probability, **13.5:** Probability with the Fundamental Counting Principle, Permutations, and Combinations, **13.6:** Events Involving *Not* and *Or;* Odds, **13.7:** Events Involving *And;* Conditional Probability

TNCore Common Core State Standards for Mathematics - High School PARRC Model Content Frameworks Mathematics Algebra II	**MyMathLab® for School, Algebra II ©2016**
2. Understand that two events *A* and *B* are independent if the probability of *A* and *B* occurring together is the product of their probabilities, and use this characterization to determine if they are independent.	**SE/TE: 13.6:** Events Involving *Not* and *Or;* Odds, **13.7:** Events Involving *And;* Conditional Probability
3. Understand the conditional probability of *A* given *B* as *P*(*A* and *B*)/*P*(*B*), and interpret independence of *A* and *B* as saying that the conditional probability of *A* given *B* is the same as the probability of *A*, and the conditional probability of *B* given *A* is the same as the probability of *B*.	**SE/TE: 13.7:** Events Involving *And;* Conditional Probability
4. Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.	**SE/TE: 13.4:** Fundamentals of Probability
5. Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations.	**SE/TE: 13.7:** Events Involving *And;* Conditional Probability
Use the rules of probability to compute probabilities of compound events in a uniform probability model	
6. Find the conditional probability of *A* given *B* as the fraction of *B*'s outcomes that also belong to *A,* and interpret the answer in terms of the model.	**SE/TE: 13.7:** Events Involving *And;* Conditional Probability
7. Apply the Addition Rule, P(A or B) = P(A) + P(B) – P(A and B), and interpret the answer in terms of the model.	**SE/TE: 13.6:** Events Involving *Not* and *Or;* Odds, **13.7:** Events Involving *And;* Conditional Probability

★ indicates modeling standards
SE = Student Edition
TE = Teacher's Edition