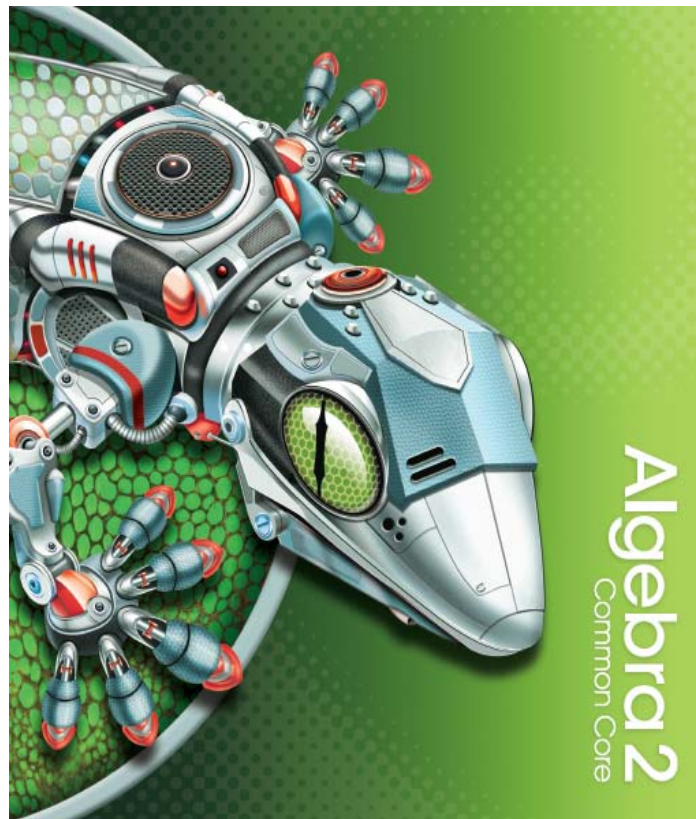


**A Correlation of
Pearson Mathematics
Algebra 2
Common Core, ©2015**



**To the
Missouri Learning Standards for
Mathematics - Algebra 2**

A Correlation of Pearson High School Mathematics Algebra 2 Common Core ©2015 To the Missouri Learning Standards for Mathematics – Algebra 2

Introduction

This document demonstrates how ***Pearson Algebra 2, Common Core Edition ©2015*** meets the standards of the Missouri Learning Standards for Mathematics, Algebra 2. Correlation references are to the pages of the Student and Teacher’s Editions.

Pearson Algebra 2, Common Core Edition ©2015 balances conceptual understanding, procedural fluency, and the application of mathematics to solve problems and formulate models.

- Each lesson begins with Interactive Learning, the Solve It!, which immediately engages students in their daily learning according to the Standards for Mathematical Practice.
- The second step of the lesson, Guided Instruction, uses visual learning principles and a Thinking/Reasoning strand (seen in the Know/Need/Plan and Think/Plan/Write boxes) to introduce the Essential Understanding of the lesson by teaching THROUGH and FOR problem-solving.
- In the third step of the lesson, the Lesson Check, Do you know HOW? exercises measure students’ procedural fluency, while Do you UNDERSTAND? problems measure students’ conceptual understanding.
- In the fourth step of the lesson, Practice problems are designed to develop students’ fluency in the Content Standards and proficiency with the Mathematical Practices. Real-world STEM problems as well as problems designed to elicit the use of one or more of the Standards for Mathematical Practice are clearly labeled in the Practice step of the lesson.
- The final phase of the lesson, Assess and Remediate, features a Lesson Quiz to measure students’ understanding of lesson concepts. By utilizing the balanced and proven-effective approach of Pearson’s 5-step lesson design, you can teach with confidence.

Missouri Learning Standards for Mathematics Grade-Level Expectations Algebra 2	Pearson High School Mathematics Algebra 2
Number and Quantity	
A Extend and use the relationship between rational exponents and radicals.	
1 Extend the system of powers and roots to include rational exponents.	SE/TE: CB 360, 381-385 TE: 388A-388B
2 Create and recognize equivalent expressions involving radical and exponential forms of expressions.	SE/TE: 361-364 TE: 373A-373B
3 Add, subtract, multiply and divide radical expressions.	For supporting content, please see: SE/TE: 367-370 TE: 373A-373B
4 Solve equations involving rational exponents and/or radicals and identify situations where extraneous solutions may result.	SE/TE: 390-394, 542-545 TE: 397A-397B, 548A-548B
B Use complex numbers.	
1 Represent complex numbers.	SE/TE: 248-253 TE: 255A-255B
2 Add, subtract, multiply and divide complex numbers.	SE/TE: 250-253 TE: 255A-255B
3 Know and apply the Fundamental Theorem of Algebra.	SE/TE: 319-322 TE: 324A-324B
Seeing Structure in Expressions	
A Define and use logarithms.	
1 Develop the definition of logarithms based on properties of exponents.	SE/TE: 453, 456, 462-465 TE: 458A-458B, 468A-468B

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Missouri Learning Standards for Mathematics Grade-Level Expectations Algebra 2	Pearson High School Mathematics Algebra 2
2 Use the inverse relationship between exponents and logarithms to solve exponential and logarithmic equations.	SE/TE: 469-473, 478-480 TE: 476A-476B, 483A-483B
3 Use properties of logarithms to solve equations or find equivalent expressions.	SE/TE: CB 477 TE:
4 Understand why logarithmic scales are used, and use them to solve problems.	SE/TE: 453, 456, 463-465 TE: 458A-458B, 468A-468B
Reasoning with Equations and Inequalities	
A Solve equations and inequalities.	
1 Create and solve equations and inequalities, including those that involve absolute value.	SE/TE: 26-30, 33-37, 41-45, 68-71, 114-118, 194-198, 226-229, 233-237, 240-244, CB 256-257, 469-473, 478-480, CB 484-485, 542-545, CB 550-551 TE: 32A-32B, 40A-40B, 48A-48B, 73A-73B, 120A-120B, 201A-201B, 231A-231B, 239A-239B, 247A-247B, 476A-476B, 483A-483B, 548A-548B
2 Solve rational equations where numerators and denominators are polynomials and where extraneous solutions may result.	SE/TE: 542-545 TE: 548A-548B
B Solve general systems of equations and inequalities.	
1 Create and solve systems of equations that may include non-linear equations and inequalities.	SE/TE: 134-138, 142-145, 149-152, 166-171, 174-179, 258-261 TE: 141A-141B, 148A-148B, 155A-155B, 173A-173B, 181A-181B, 264A-264B
Arithmetic with Polynomials and Rational Expressions	
A Perform operations on polynomials and rational expressions.	
1 Extend the knowledge of factoring to include factors with complex coefficients.	SE/TE: 319-322 TE: 324A-324B

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Missouri Learning Standards for Mathematics Grade-Level Expectations Algebra 2	Pearson High School Mathematics Algebra 2
2 Understand the Remainder Theorem and use it to solve problems.	SE/TE: 307-308 TE: 310A-310B
3 Find the least common multiple of two or more polynomials.	SE/TE: 534-535 TE: 541A-541B
4 Add, subtract, multiply and divide rational expressions.	SE/TE: 527-530, 534-539 TE: 533A-533B, 541A-541B
5 Identify zeros of polynomials when suitable factorizations are available, and use the zeros to sketch the function defined by the polynomial.	SE/TE: 288-293, 296-300, CB 325 TE: 295A-295B, 302A-302B
Interpreting Functions	
A Use and interpret functions.	
1 Identify and interpret key characteristics of functions represented graphically, with tables and with algebraic symbolism to solve problems.	SE/TE: 74-78, 92-96, 194-198, 202-206, 209-212, 280-285, 331-335, CB 459-460, 507-512, 828-831, 851-855, 861-864 TE: 80A-80B, 98A-98B, 201A-201B, 208A-208B, 214A-214B, 287A-287B, 338A-338B, 514A-514B, 834A-834B, 858A-858B, 867A-867B
2 Translate between equivalent forms of functions.	SE/TE: 74-78, 81-86, 202-206 TE: 80A-80B, 88A-88B, 208A-208B
Building Functions	
A Create new functions from existing functions.	
1 Create new functions by applying the four arithmetic operations and composition of functions (modifying the domain and range as necessary).	SE/TE: 398-401 TE: 404A-404B

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Missouri Learning Standards for Mathematics Grade-Level Expectations Algebra 2	Pearson High School Mathematics Algebra 2
2 Derive inverses of functions, and compose the inverse with the original function to show that the functions are inverses.	SE/TE: 405-409, 451-456 TE: 412A-412B, 458A-458B
3 Describe the effects of transformations algebraically and graphically, creating vertical and horizontal translations, vertical and horizontal reflections and dilations (expansions/compressions) for linear, quadratic, cubic, square and cube root, absolute value, exponential and logarithmic functions.	SE/TE: 99-103, 108-111, 195-198, 339-342, 415-418, 442-447, 455-456 TE: 106A-106B, 113A-113B, 201A-201B, 345A-345B, 420A-420B, 450A-450B, 458A-458B
Modeling	
A Use functions to model real-world problems.	
1 Create functions and use them to solve applications of quadratic and exponential function model problems.	SE/TE: 202-206, 209-212, 434-439 TE: 208A-208B, 214A-214B, 441A-441B
Data and Statistical Analysis	
A Make inferences and justify conclusions.	
1 Analyze how random sampling could be used to make inferences about population parameters.	SE/TE: 725-728 TE: 730A-730B
2 Determine whether a specified model is consistent with a given data set.	SE/TE: CB 694-695
3 Describe and explain the purposes, relationship to randomization and differences among sample surveys, experiments and observational studies.	SE/TE: 725-728 TE: 730A-730B
4 Use data from a sample to estimate characteristics of the population and recognize the meaning of the margin of error in these estimates.	SE/TE: 725-728, CB 746 TE: 730A-730B

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Missouri Learning Standards for Mathematics Grade-Level Expectations Algebra 2	Pearson High School Mathematics Algebra 2
5 Describe and explain how the relative sizes of a sample and the population affect the margin of error of predictions.	SE/TE: 725-728, CB 746 TE: 730A-730B
6 Analyze decisions and strategies using probability concepts.	SE/TE: 703-707 TE: 709A-709B
7 Evaluate reports based on data.	SE/TE: 719-722, 725-728 TE: 724A-724B, 730A-730B
B Fit a data set to a normal distribution.	
1 Know and use the characteristics of normally distributed data sets; predict what percentage of the data will be above or below a given value that is a multiple of standard deviations above or below the mean.	SE/TE: 719-722, 739-743, CB 748-749 TE: 724A-724B, 745A-745B
2 Fit a data set to a distribution using its mean and standard deviation to determine whether the data is approximately normally distributed.	SE/TE: 719-722, 739-743 TE: 724A-724B, 745A-745B