



Algebra 2

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STANDARDS	PAGE REFERENCES
Grades 11-12	
Standard 1: Number and Operation	
Standard 1: Students understand and use basic and advanced concepts of number and number systems.	
Benchmark Expectations	
NUMBERS, NUMBER RELATIONSHIPS, AND NUMBER SYSTEMS	
11-12.1.1. Translate between radical expressions and expressions involving rational exponents	Student Edition: 415-421, 427 #49-#51 Teacher Wraparound Edition: Pre-AP 417
11-12.1.2. Describe the hierarchal relationships (e.g., explain why real numbers are complex) among subsets of the complex number system, i.e., complex, real, and imaginary	Student Edition: 11-17, 259-266 (especially 376) Teacher Wraparound Edition: DI 260; F 14, 263
11.12.1.3. Use imaginary numbers to express square roots of negative numbers	Student Edition: 259-266, 268-275, 276-283, 362-362-368, 369-373 Teacher Wraparound Edition: Pre-AP 273
11.12.1.4. Justify the steps of an algebraic process using the properties of the real number system; e.g., write an algebraic proof	Student Edition: 18-26, 28 #56 & #57, 258 #53, 276, 312-313, 317 #44, 357 #44, 517 #73, 520, 526 #51, 533 #57, 574, 581, 590, 670-673, 842-846

STANDARDS	PAGE REFERENCES
OPERATIONS AND THEIR PROPERTIES	
11.12.1.5. Determine which properties of the real number system hold for matrices; e.g., matrix multiplication is not commutative	Student Edition: 169-176, 177-184
11.12.1.6. Apply basic properties of exponents and logarithms to rewrite algebraic expressions; i.e., power of a product, power of a power, products and quotients of powers, zero and negative exponents, and log of a product, quotient, or power	Student Edition: 312-318, 498-505, 509-517, 520-526, 528-533, 536-542 Teacher Wraparound Edition: DI 513, 522; I 314, 521; Pre-AP 318, 517
COMPUTATIONAL FLUENCY AND ESTIMATION	
11.12.1.7. Add, subtract, and multiply complex numbers	Student Edition: 259-266, 282 #51, 283 #59-#61, 362-368 <i>Algebra Lab</i> 262 Teacher Wraparound Edition: Pre-AP 266
11.12.1.8. Multiply matrices containing no more than three rows or columns without the use of technology	Student Edition: 177-184, 185-192, 208-215, 216-222 Teacher Wraparound Edition: Pre-AP 179, 211, 222
Standard 2: Geometry and Spatial Sense	
Standard 2: Student understands and applies geometric concepts and spatial relationships to represent and solve problems in mathematical and nonmathematical situations.	
Benchmark Expectations	
TWO- AND THREE-DIMENSIONAL SHAPES, GEOMETRIC PROPERTIES AND RELATIONSHIPS	
11-12.2.1. Use trigonometric relationships to determine side lengths and angle measures in triangles; i.e., right triangle trigonometry, Law of Sines, and Law of Cosines	Student Edition: 759-767, 776-783, 785-792, 793-798, 799-805 <i>Graphing Calculator Lab</i> 800 Teacher Wraparound Edition: DI 795; F 779; I 761, 777, 786; Pre-AP 767, 783, 792, 798; TfNT 778

STANDARDS	PAGE REFERENCES
Standard 3: Data Analysis, Statistics, and Probability	
Standard 3: Students use data collection and analysis techniques, statistical methods, and probability to solve problems.	
Benchmark Expectations	
DATA COLLECTION, DISPLAY, AND INTERPRETATION	
11-12.3.1. Choose, construct, and interpret a display to represent a set of data	Student Edition: 86-91, 724-728 <i>Algebra Lab 88</i> <i>Graphing Calculator Lab 92-94</i> <i>Prerequisite Skills 885, 886-887, 888, 889-890</i> Teacher Wraparound Edition: F 87, 725; Pre-AP 91
PROBABILITY	
11-12.3.2. Make predictions based on theoretical probabilities and experimental results	Student Edition: 697-702, 703-709, 710-715 <i>Algebra Lab 703</i> Teacher Wraparound Edition: F 699; Pre-AP 702, 707
STATISTICAL METHODS	
11-12.3.3. Select, calculate, and use appropriate measures of central tendency and spread (i.e., mean, median, mode, range, and quartiles) to draw meaningful conclusions about a set of data	Student Edition: 717-723, 724-728 <i>Algebra Lab 734</i> <i>Graphing Calculator Lab 719</i> Teacher Wraparound Edition: F 718, 725; Pre-AP 723
PREDICTIONS, DATA ANALYSIS, AND INFERENCES	
11-12.3.4. Given a set of data exhibiting a linear trend, approximate an equation for the line of best fit (with or without technology) and use that model to make predictions	Student Edition: 86-91 <i>Algebra Lab 88</i> <i>Graphing Calculator Lab 92-94</i> Teacher Wraparound Edition: F 87; Pre-AP 91

STANDARDS	PAGE REFERENCES
Standard 4: Measurement	
Standard 4: Students use concepts and tools of measurement to describe and quantify the world.	
MEASURABLE ATTRIBUTES, MEASUREMENT SYSTEMS AND UNITS	
MEASUREMENT TOOLS, TECHNIQUES, AND FORMULAS	
Standard 5: Algebra, Functions and Patterns	
Standard 5: Students use algebraic concepts, functions, patterns, and relationships to solve problems.	
Benchmark Expectations	
PATTERNS, RELATIONS, AND FUNCTIONS	
11-12.5.1. Perform advanced operations (i.e., composition and finding inverses) on algebraic functions	Student Edition: 384-390, 391-396 <i>Algebra Lab</i> 394 Teacher Wraparound Edition: DI 392; F 385; I 393; Pre-AP 386, 396; TfNT 385
11-12.5.2. Generate graphs of a variety of functions (i.e., linear, quadratic, polynomial, absolute value, and exponential), using technology when appropriate	Student Edition: 71-77, 86-91, 95-101, 102-105, 116-122, 138-144, 236-244, 286-292, 294-301, 331-338, 339-345, 397-401, 473-478 <i>Graphing Calculator Lab</i> 73, 78, 92-94, 284-285, 342, 346-347, 399 Teacher Wraparound Edition: Pre-AP 98, 122
NUMERIC AND ALGEBRAIC REPRESENTATIONS	
11-12.5.3. Solve quadratic equations involving complex roots	Student Edition: 268-275, 276-283, 362-368, 369-373 <i>Algebra Lab</i> 270 Teacher Wraparound Edition: Pre-AP 273
11-12.5.4. Use transformations (i.e., reflection, translation, dilation) to graph linear, quadratic, and absolute value functions	Student Edition: 97 Ex2, 236-244, 286-292 <i>Graphing Calculator Lab</i> 73, 78, 97, 284-285
11-12.5.5. Given the graph of a transformed linear, quadratic, or absolute value function, write its equation	The following references can be integrated into lessons to meet this objective. Student Edition: 79-84, 95-101, 236-244, 286-292

STANDARDS	PAGE REFERENCES
MATHEMATICAL MODELING	
<p>11-12.5.5. Determine and write an equation for a function (i.e., linear, quadratic, polynomial, absolute value, and exponential) that models a mathematical relationship</p>	<p>Student Edition: 18-26, 27-31, 66-70, 79-84, 86-91, 95-101, 102-105, 249 #12, 257 #32, 274 #60, 290 #11 & #12, 299 #27 & #28, 353 #36-#38, 372 #30-#31, 498-506</p> <p><i>Graphing Calculator Lab</i> 92-94, 293</p> <p>Teacher Wraparound Edition: Pre-AP 91</p>