



Algebra 1

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| STANDARDS | PAGE REFERENCES |
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| Grade 9 | |
| Number and Operations | |
| 1. Understand numbers, ways of representing numbers, relationships among numbers and number systems | |
| A. Read, write and compare numbers | |
| compare and order rational and irrational numbers, including finding their approximate locations on a number line MA 5 3.3 IX.a | Student Edition: 46-52, 64, 65, 187-195, 196-202, 294-299, 301-307, 315-320, 322-327, 329-333, 719 <i>Algebra Lab</i> 77, 92, 300, 375 Teacher Wraparound Edition AE 47-50, 295-296, 302, 316-317; DI 49, 481; PE 48 |
| B. Represent and use rational numbers | |
| C. Compose and decompose numbers | |
| D. Classify and describe numeric relationships | |

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| 2. Understand meanings of operations and how they relate to one another | |
| A. Represent operations | |
| B. Describe effects of operations | |
| describe the effects of operations, such as multiplication, division, and computing powers and roots on the magnitude of quantities MA 4 3.4,4.1 VIII.i | Student Edition: 46-52, 64, 65, 76, 358-363, 366-372, 410, 411, 457-460, 464, 482-485, 502-509, 510-514, 528-534, 541-546, 548, 549-554, 737 <i>Graphing Calculator Lab</i> 367, 515 Teacher Wraparound Edition AE 47-50, 360, 542, 550; GCL 367, 515 |
| C. Apply properties of operations | |
| apply <u>properties of exponents</u> (including order of operations) to simplify expressions MA 4 1.6,1.10 VIII.c & d | Student Edition: 7-8, 10-14, 15-20, 32, 37 #56, 61, 115, 182 #3, 357, 358-363, 366-373, 416, 420-424, 426-430, 493-499, 510-514, 519-520 Teacher Wraparound Edition AE 11-12, 16-17, 494-495; FMC 11; PAA 14 |
| D. Apply operations on real and complex numbers | |
| apply operations to real numbers, using mental computation or paper-and-pencil calculations for simple cases and technology for more complicated cases MA 1,4,5 1.4,3.4 V.a, VIII.d, IX.6 | Student Edition: 6-9, 10-14, 15-20, 26-31, 32, 61-63, 65, 84, 381 #72-#74, 457-460, 482-485, 486-491, 493-499, 502-507, 510-514, 528-534, 549-554, 555-559, 719, 737 <i>Graphing Calculator Lab</i> 309, 328, 589 |
| 3. Compute fluently and make reasonable estimates | |
| A. Describe or represent mental strategies | |
| B. Develop and demonstrate fluency | |
| C. Compute problems | |
| apply all operations on real numbers MA 5 1.10,3.3 IX.a | Student Edition: 6-9, 10-14, 15-20, 26-31, 32, 61-63, 65, 84, 381 #72-#74, 457-460, 482-485, 486-491, 493-499, 502-507, 510-514, 528-534, 549-554, 555-559, 719, 737 |

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| D. Estimate and justify solutions | |
| judge the reasonableness of numerical computations and their results MA 1 3.8 V.a | Student Edition: 10-14, 78-83, 85-90, 92-97, 98-103, 105-109, 390-395, 398-403, 404-409, 411-414, 426-431, 434-439, 441-445, 447-452, 454-460, 462-464, 482-484 <i>Algebra Lab</i> 77, 91 Teacher Wraparound Edition AE 11-12, 79-80; FMC 11; SM 12; SQ 10 |
| E. Use proportional reasoning | |
| solve problems involving proportions MA 1,4 3.3 V.a, VIII.e | Student Edition: 105-110, 111-115, 116, 121, 133, 135, 191 Ex 7, 193, 195 #65, 560-565, 570, 578-582, 626, 630-631, 634, 702-703, 738-739 <i>Reading Math</i> 116 Teacher Wraparound Edition AE 106-107, 112-113, 191 Ex 7, 579, 626 Ex 1 |
| Algebraic Relationships | |
| 1. Understand patterns, relations and functions | |
| A. Recognize and extend patterns | |
| B. Create and analyze patterns | |
| generalize patterns using <u>explicitly</u> or <u>recursively</u> defined functions MA 4 1.6,3.5 VIII.1.b | Student Edition: 72, 142, 143-148, 149-154, 155-161, 165-170, 171, 172-176, 179-180, 181, 186, 187-195, 196-202, 203, 210-211 <i>Algebra Lab</i> 72, 142, 145, 186 <i>Graphing Calculator Lab</i> 197, 210-211 <i>Reading Math</i> 171 Teacher Wraparound Edition: AE 166-167, 173-174; BPK 166; FMC 167; SQ 165, 172-173 |

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|---|--|
| C. Classify objects and representations | |
| <p>compare and contrast various forms of <u>representations</u> of patterns</p> <p>MA 4 1.6 VIII.a & h</p> | <p>Student Edition: 196-202, 203, 210-211, 398-403, 404-409, 413-414, 431, 434-439, 440, 441-446, 447-451, 454-459, 463-464 <i>Algebra Lab</i> 441 <i>Graphing Calculator Lab</i> 197, 203, 210-211</p> <p>Teacher Wraparound Edition: AE 455-457; PAA 199; SQ 196</p> |
| D. Identify and compare functions | |
| <p>understand and compare the properties of <u>linear</u> and <u>exponential</u> functions (include intercepts)</p> <p>MA 4 1.6,3.6 VIII.b & c</p> | <p>Student Edition: 70-76, 155-161, 162-163, 172-176, 178-179, 186, 187-195, 196-202, 203, 204-209, 210-211, 213-218, 236-241, 502-508, 510-514, 515-516 <i>Algebra Lab</i> 509 <i>Graphing Calculator Lab</i> 162-163, 186, 197, 203, 210-211, 515-516</p> |
| E. Describe the effects of parameter changes | |
| <p>describe the effects of <u>parameter changes</u> on <u>linear</u> functions</p> <p>MA 4 1.6,4.1 VIII.i</p> | <p>Student Edition: 142, 162-163, 172-176, 178-179, 186, 187-195, 196-202, 203, 204-209, 210-211, 213-218, 236-241 <i>Algebra Lab</i> 142 <i>Graphing Calculator Lab</i> 162-163, 186, 197, 203, 210-211</p> <p>Teacher Wraparound Edition: FMC 190, 191; SQ 187-188, 196, 236</p> |
| 2. Represent and analyze mathematical situations and structures using algebraic symbols | |
| A. Represent mathematical situations | |
| <p>use <u>symbolic algebra</u> to represent and solve problems that involve linear relationships, including absolute value and <u>recursive</u> relationships</p> <p>MA 4,6 1.6,3.1 VIII.c & d, X.h</p> | <p>Student Edition: 70-76, 80-83, 87-89, 93-97, 100-102, 122-127, 132, 172-176, 204-209, 212, 213-218, 219, 220-225, 227-233, 322-328, 329-333 <i>Algebra Lab</i> 72, 77, 91 <i>Graphing Calculator Lab</i> 203, 219 <i>Spreadsheet Lab</i> 129</p> <p>Teacher Wraparound Edition: AE 173-174, 214-216, 221-222; PAA 71; SQ 70</p> |

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| B. Describe and use mathematical manipulation | |
| describe and use algebraic manipulations, including factoring and rules of integer exponents MA 4 3.1,4.1 VIII.a & d | Student Edition: 70-75, 78-84, 85-90, 92-97, 98-103, 105-110, 358-363, 366-373, 384-388, 390-395, 398-403, 404-409, 420-425, 426-431, 434-439, 441-446, 447-452, 454-459 <i>Algebra Lab</i> 72, 91 <i>Graphing Calculator Lab</i> 367 |
| C. Utilize equivalent forms | |
| use and solve equivalent forms of equations and inequalities (linear) MA 4 1.6,3.4 VIII.d & e | Student Edition: 111-115, 116, 117-121, 134, 196-202, 213-218, 220-225, 236-241, 315-319, 322-327, 329-333, 724-726 <i>Reading Math</i> 116 Teacher Wraparound Edition: A 116; AE 118-119, 221-222; FMC 119, 221; PAA 121; T 116 |
| D. Utilize systems | |
| use and solve systems of linear equations with 2 variables MA 4 1.6 VIII.b & d | Student Edition: 252, 253-258, 259, 260-265, 266-270, 271, 272-278, 280-284, 286-288, 289, 290-291, 299 <i>Algebra Lab</i> 260 <i>Graphing Calculator Lab</i> 259 <i>Spreadsheet Lab</i> 252 Teacher Wraparound Edition: 250H, AE 254-255, 261-262, 267-268, 273-274; PAA 254, 265; SQ 253-254, 260-261, 266-267, 272-273, 280 |
| 3. Use mathematical models to represent and understand quantitative relationships | |
| A. Use mathematical models | |
| identify quantitative relationships and determine the type(s) of functions that might model the situation to solve the problem MA 4 1.6,3.6 VIII.c | Student Edition: 122-128, 134, 143-148, 149-154, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754 <i>Algebra Lab</i> 142 <i>Graphing Calculator Lab</i> 219 <i>Spreadsheet Lab</i> 129 Teacher Wraparound Edition: AE 123-124, 145, 151; FCA 219; PAA 161; SQ 149-150 |

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| 4. Analyze change in various contexts | |
| A. Analyze change | |
| <p>analyze linear functions by investigating rates of change and intercepts</p> <p>MA 4 1.6,4.1</p> <p>VIII.a & c</p> | <p>Student Edition:</p> <p>155-161, 165-169, 172-176, 179-180, 187-195, 196-202, 204-209, 213-218, 724-726</p> <p><i>Algebra Lab</i> 186</p> <p><i>Graphing Calculator Lab</i> 162-163, 197, 210-211</p> <p>Teacher Wraparound Edition:</p> <p>AE 156-157, 173-174, 188-191; FCA 186; FMC 190, 191; RWC 192; SQ 187-188</p> |
| Geometric and Spatial Relationships | |
| 1. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships | |
| A. Describe and use geometric relationships | |
| <p>solve problems involving angle relationships (supplementary, complementary angles) and Pythagorean Theorem</p> <p>MA 2 1.6</p> <p>VI.c</p> | <p>Student Edition:</p> <p>263 #20, 549-554, 570, 571, 572-573, 639 #9, 738, 748 #15, 760 #10-#11, 767 #12, 768 #15</p> <p>Teacher Wraparound Edition:</p> <p>AE 550-551; FMC 551; PAA 551</p> |
| B. Apply geometric relationships | |
| <p>apply geometric properties and relationships, such as similarity, to solve multi-step problems in 2 dimensions</p> <p>MA 2 3.6</p> <p>VI.c</p> | <p>Student Edition:</p> <p>241 #37, 373 #57, 508 #49, 560-565, 588 #55-#56, 767 #13</p> <p>Teacher Wraparound Edition</p> <p>AE 561-562; NTM 565</p> |
| C. Compose and decompose shapes | |
| 2. Specify locations and describe spatial relationships using coordinate geometry and other representational systems | |
| A. Use coordinate systems | |
| <p>solve problems related to 2-dimensional objects by finding the distance on a Cartesian plane</p> <p>MA 2 3.2</p> <p>VI.f</p> | <p>Student Edition:</p> <p>553, 555-559, 570, 571, 572-573, 738, 768 #19</p> <p>Teacher Wraparound Edition:</p> <p>AE 556; FMC 551, 556; PAA 559; SQ 555</p> |

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| 3. Apply transformations and use symmetry to analyze mathematical situations | |
| A. Use transformations on objects | |
| represent translations, reflections, rotations, and dilations of objects in the coordinate plane MA 2 1.10 VI.b | Student Edition: 66, 291 #9, 363 #64, 373 #56, 767 #11, #14, 773 #5 <i>Algebra Lab</i> 237, 365 Teacher Wraparound Edition SQ 236 |
| B. Use transformations on functions | |
| translate and reflect linear <u>functions</u> MA 4 3.1 VIII,I | Student Edition: 236-241, 726, 747 #17-#18 <i>Graphing Calculator Lab</i> 210-211 Teacher Wraparound Edition: AE 237-239; FMC 238; SQ 236 |
| C. Use symmetry | |
| 4. Use visualization, spatial reasoning and geometric modeling to solve problems | |
| A. Recognize and draw three-dimensional representations | |
| draw and use <u>vertex-edge graphs</u> or <u>networks</u> to find optimal solutions MA 6 3.4 X.a | See Glencoe's <i>Geometry</i> © 2008 Student Edition: 105 ex 1, 108 #8-#10 |
| B. Draw and use visual models | |
| draw or use <u>visual models</u> to represent and solve problems MA 2 3.1 VI.b & i | Student Edition: 53-58, 64, 72-75, 123-127, 143-147, 148-154, 155-161, 759 <i>Algebra Lab</i> 27-28, 59, 72, 77, 91, 142, 237, 300, 365, 375, 382-383, 396-397, 425, 432-433, 447, 602 <i>Graphing Calculator Lab</i> 162-163 Teacher Wraparound Edition: AE 54-56; SQ 53 |

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| Measurement | |
| 1. Understand measurable attributes of objects and the units, systems and processes of measurement | |
| A. Determine unit of measurement | |
| identify and justify appropriate units of measure for velocity MA 1,2 3.1,4.1 V.a, VI.d | Student Edition: 591 Example 3, 593 #31-#33, 598 #28, #32-#33, 596 Example 3 <i>Algebra Lab</i> 500-501 Teacher Wraparound Edition: T 500 |
| B. Identify equivalent measures | |
| C. Tell and use units of time | |
| D. Count and compute money | |
| 2. Apply appropriate techniques, tools and formulas to determine measurements | |
| A. Use standard or non-standard measurement | |
| B. Use angle measurement | |
| solve problems of angle measure, including those involving triangles or other polygons MA 2 3.1,3.4 VI.i | Student Edition: 263 #20, 738, 748 #15, 750 #10, 763 #14, 767 |
| C. Apply geometric measurements | |
| determine the surface area and volume of geometric figures, including cones, spheres, and cylinders MA 2 1.10,3.4 VI. i | Student Edition: 9, 24 #25, 31, 32 #21, 66-67, 74-75, 104 #5-#6, 142, 278 #36, 333 #41, 365, 417 #11, 548 #18, 599 #41, 708, 750, 760 #13, 764 #21, 768, 773 <i>Algebra Lab</i> 72, 142, 365 |
| D. Analyze precision | |
| analyze effects of computation on <u>precision</u> MA 2 1.7,3.8 VI.k | Student Edition: 322-323, 326 #37-#38, 327 #52, 329, 331, 345 #44 Teacher Wraparound Edition AE 323; RWC 331; SQ 322 |

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| E. Use relationships within a measurement system | |
| use <u>unit analysis</u> to solve problems involving rates MA 4 3.1 VIII.b | Student Edition: 105-110, 111-115, 116, 590-594, 595-599, 620-625, 626-631, 754 Teacher Wraparound Edition AE 106-107, 112-113, 591, 596, 621; FMC 591; I 591; SQ 590, 620 |
| Data and Probability | |
| 1. Formulate questions that can be addressed with data and collect, organize and display relevant data to answer them | |
| A. Formulate questions | |
| formulate questions, design studies and collect data about a characteristic MA 3 1.2 VII.a | Student Edition: 642-647, 649, 672-676 <i>Algebra Lab</i> 678 <i>Reading Math</i> 649 Teacher Wraparound Edition: AE 643-645; PAA 648, 676; SQ 642 |
| B. Classify and organize data | |
| C. Represent and interpret data | |
| select, create and use appropriate graphical representation of data MA 6 1.8, 3.6 X.b | Student Edition: 649, 663-669, 672-675, 713, 714-715, 755, 769-771, 773 <i>Reading Math</i> 649 |
| 2. Select and use appropriate statistical methods to analyze data | |
| A. Describe and analyze data | |
| apply statistical concepts to solve problems MA 3 1.10,3.4 VII.g | Student Edition: 673-676, 677-683, 687-688 Teacher Wraparound Edition: AE 678-679; PAA 676; SQ 677 |
| B. Compare data representations | |
| given <u>one-variable quantitative</u> data, display the distribution and describe its shape MA 3 1.8 VII.d & I | Student Edition: 649, 713, 714-715 <i>Reading Math</i> 649 |

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| C. Represent data algebraically | |
| <p>given a scatter plot, determine an equation for a <u>line of best fit</u></p> <p>MA 3 1.6 VII.b</p> | <p>Student Edition: 227-233, 246, 247, 320 #53, 515-516, 769-771, 772 <i>Algebra Lab 228</i> <i>Graphing Calculator Lab 203, 234-235</i></p> <p>Teacher Wraparound Edition AE 228-230; FCA 516; PAA 233; SM 230; SQ 227-228</p> |
| 3. Develop and evaluate inferences and predictions that are based on data | |
| A. Develop and evaluate inferences | |
| <p>make <u>conjectures</u> about possible relationships between 2 characteristics of a sample on the basis of scatter plots of the data and approximate lines of fit</p> | <p>Student Edition: 227-233, 246, 247, 320 #53, 515-516, 769-771, 772 <i>Algebra Lab 228</i> <i>Graphing Calculator Lab 234-235</i></p> <p>Teacher Wraparound Edition AE 228-230; FCA 516; PAA 233; SM 230; SQ 227-228</p> |
| B. Analyze basic statistical techniques | |
| 4. Understand and apply basic concepts of probability | |
| A. Apply basic concepts of probability | |
| <p>construct <u>sample spaces</u> and distributions</p> <p>MA 3 3.1 VII.f</p> | <p>Student Edition: 642-647, 649, 672-676, 687, 690, 714-715, 742-743, 755</p> <p>Teacher Wraparound Edition: AE 643-645, 673-674; PAA 676; SQ 672</p> |
| B. Use and describe compound events | |

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| Grade 10 | |
| Number and Operations | |
| 1. Understand numbers, ways of representing numbers, relationships among numbers and number systems | |
| A. Read, write and compare numbers | |
| B. Represent and use rational numbers | |
| <p>use real numbers to solve problems</p> <p>MA 1 3.4</p> <p>V.1.a</p> | <p>Student Edition:</p> <p>15-20, 39-43, 46-52, 61-62, 78-83, 85-90, 92-97, 98-103, 105-110, 122-127, 131-133</p> <p><i>Algebra Lab</i> 45, 77, 91</p> <p><i>Spreadsheet Lab</i> 129</p> <p>Teacher Wraparound Edition:</p> <p>AE 16-17</p> |
| C. Compose and decompose numbers | |
| <p>use a variety of representations to demonstrate an understanding of very large and very small numbers</p> <p>MA 5 3.6</p> <p>IX.a & d</p> | <p>Student Edition:</p> <p>358-363, 366-372, 730-731</p> <p><i>Algebra Lab</i> 367</p> <p><i>Reading Math</i> 171</p> <p>Teacher Wraparound Edition:</p> <p>AE 359-360, 367-369; FMC 368; PAA 371; PE 368</p> |
| D. Classify and describe numeric relationships | |
| 2. Understand meanings of operations and how they relate to one another | |
| A. Represent operations | |
| B. Describe effects of operations | |
| C. Apply properties of operations | |
| <p>apply <u>properties of exponents</u> to simplify expressions or solve equations</p> <p>MA 4 1.6,1.10</p> <p>VIII.c & d</p> | <p>Student Edition:</p> <p>7-8, 10-14, 15-20, 32, 37 #56, 61, 115, 182 #3, 357, 358-363, 366-373, 416, 420-424, 426-430, 493-499, 510-514, 519-520</p> <p>Teacher Wraparound Edition</p> <p>AE 11-12, 16-17, 494-495; FMC 11; PAA 14</p> |

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| D. Apply operations on real and complex numbers | |
| apply operations to real numbers, using mental computation or paper-and-pencil calculations for simple cases and technology for more complicated cases MA 1,4,5 1.4,3.4 V.a, VIII.d, IX.6 | Student Edition: 6-9, 10-14, 15-20, 26-31, 32, 61-63, 65, 84, 381 #72-#74, 457-460, 482-485, 486-491, 493-499, 502-507, 510-514, 528-534, 549-554, 555-559, 719, 737 <i>Graphing Calculator Lab</i> 309, 328, 589 |
| 3. Compute fluently and make reasonable estimates | |
| A. Describe or represent mental strategies | |
| B. Develop and demonstrate fluency | |
| C. Compute problems | |
| D. Estimate and justify solutions | |
| judge the reasonableness of numerical computations and their results MA 1 3.8 V.a | Student Edition: 10-14, 78-83, 85-90, 92-97, 98-103, 105-109, 390-395, 398-403, 404-409, 411-414, 426-431, 434-439, 441-445, 447-452, 454-460, 462-464, 482-484 <i>Algebra Lab</i> 77, 91 Teacher Wraparound Edition AE 11-12, 79-80; FMC 11; SM 12; SQ 10 |
| E. Use proportional reasoning | |
| solve problems involving proportions MA 1,4 3.3 V.a, VIII.e | Student Edition: 105-110, 111-115, 116, 121, 133, 135, 191 Ex 7, 193, 195 #65, 560-565, 570, 578-582, 626, 630-631, 634, 702-703, 738-739 <i>Reading Math</i> 116 Teacher Wraparound Edition AE 106-107, 112-113, 191 Ex 7, 579, 626 Ex 1 |

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| Algebraic Relationships | |
| 1. Understand patterns, relations and functions | |
| A. Recognize and extend patterns | |
| B. Create and analyze patterns | |
| <p>generalize patterns using <u>explicitly</u> or <u>recursively</u> defined functions</p> <p>MA 4 1.6,3.5</p> <p>VIII.1.b</p> | <p>Student Edition:</p> <p>72, 142, 143-148, 149-154, 155-161, 165-170, 171, 172-176, 179-180, 181, 186, 187-195, 196-202, 203, 210-211</p> <p><i>Algebra Lab</i> 72, 142, 145, 186</p> <p><i>Graphing Calculator Lab</i> 197, 210-211</p> <p><i>Reading Math</i> 171</p> <p>Teacher Wraparound Edition:</p> <p>AE 166-167, 173-174; BPK 166; FMC 167; SQ 165, 172-173</p> |
| C. Classify objects and representations | |
| <p>compare and contrast various forms of <u>representations</u> of patterns</p> <p>MA 4 1.6</p> <p>VIII.a & h</p> | <p>Student Edition:</p> <p>196-202, 203, 210-211, 398-403, 404-409, 413-414, 431, 434-439, 440, 441-446, 447-451, 454-459, 463-464</p> <p><i>Algebra Lab</i> 441</p> <p><i>Graphing Calculator Lab</i> 197, 203, 210-211</p> <p>Teacher Wraparound Edition:</p> <p>AE 455-457; PAA 199; SQ 196</p> |
| D. Identify and compare functions | |
| <p>understand and compare the properties of <u>linear</u>, <u>exponential</u> and <u>quadratic</u> functions (include domain and range)</p> <p>MA 4 1.6,3.6</p> <p>VIII.b & c</p> | <p>Student Edition:</p> <p>196-202, 204-209, 471-477, 480-485, 493-496, 502-507</p> <p><i>Algebra Lab</i> 509</p> <p><i>Graphing Calculator Lab</i> 197, 210-211, 470, 478-479, 504, 515-516</p> <p>Teacher Wraparound Edition:</p> <p>AE 472-474; FMC 473, 504; SM 503</p> |

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| E. Describe the effects of parameter changes | |
| describe the effects of <u>parameter changes</u> on <u>quadratic</u> and <u>exponential</u> functions MA 4 1.6,4.1 VIII.i | Student Edition: 471-477, 480-485, 486-491, 492, 493-499, 502-507, 510-514, 735-736, 752 <i>Algebra Lab</i> 500-501, 509 <i>Graphing Calculator Lab</i> 470, 478-479, 504 Teacher Wraparound Edition: AE 494-496, 503-505; FMC 473, 504; PE 474; SM 512 |
| 2. Represent and analyze mathematical situations and structures using algebraic symbols | |
| A. Represent mathematical situations | |
| use <u>symbolic algebra</u> to represent and solve problems that involve quadratic relationships, including <u>recursive</u> relationships MA 4,6 1.6,3.1 VIII.c & d, X.h | Student Edition: 429-430, 471-477, 480-485 <i>Algebra Lab</i> 447, 500-501 <i>Graphing Calculator Lab</i> 470, 478-479 |
| B. Describe and use mathematical manipulation | |
| describe and use algebraic manipulations, including factoring and rules of integer exponents MA 4 3.1,4.1 VIII.a & d | Student Edition: 70-75, 78-84, 85-90, 92-97, 98-103, 105-110, 358-363, 366-373, 384-388, 390-395, 398-403, 404-409, 420-425, 426-431, 434-439, 441-446, 447-452, 454-459 <i>Algebra Lab</i> 72, 91 <i>Graphing Calculator Lab</i> 367 |
| C. Utilize equivalent forms | |
| use and solve equivalent forms of equations and inequalities (piece-wise and quadratic) MA 4 1.6,3.4 VIII.d | Student Edition: 149-154, 480-484, 485, 486-490 <i>Algebra Lab</i> 500-501 <i>Graphing Calculator Lab</i> 219 Teacher Wraparound Edition: FCA 219; PAA 154, 485; TT 219 |

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| D. Utilize systems | |
| <p>use and solve systems of linear equations or inequalities with 2 variables</p> <p>MA 4 1.6 VIII.b & d</p> | <p>Student Edition: 252, 253-258, 259, 260-265, 266-270, 271, 272-278, 280-284, 286-288, 289, 290-291, 299, 341-345, 347-350, 749</p> <p><i>Algebra Lab</i> 260, 300</p> <p><i>Graphing Calculator Lab</i> 259, 309, 340, 342</p> <p><i>Spreadsheet Lab</i> 252</p> |
| 3. Use mathematical models to represent and understand quantitative relationships | |
| A. Use mathematical models | |
| <p>identify quantitative relationships and determine the type(s) of functions that might model the situation to solve the problem</p> <p>MA 4 1.6,3.6 VIII.c</p> | <p>Student Edition: 122-128, 134, 143-148, 149-154, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754</p> <p><i>Algebra Lab</i> 142</p> <p><i>Graphing Calculator Lab</i> 219</p> <p><i>Spreadsheet Lab</i> 129</p> <p>Teacher Wraparound Edition: AE 123-124, 145, 151; FCA 219; PAA 161; SQ 149-150</p> |
| 4. Analyze change in various contexts | |
| A. Analyze change | |
| <p>analyze quadratic functions by investigating rates of change, intercepts and zeros</p> <p>MA 4 1.6,4.1 VIII.a & c</p> | <p>Student Edition: 480-485, 486-492, 493-499, 518-519, 734-735</p> <p><i>Algebra Lab</i> 500-501</p> <p>Teacher Wraparound Edition: AE 481-483, 487-488, 494-496; FMC 482, 489; I 495; PAA 485; SQ 480, 486; T 500</p> |
| Geometric and Spatial Relationships | |
| 1. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships | |
| A. Describe and use geometric relationships | |
| <p>use inductive and deductive reasoning to establish the validity of geometric <u>conjectures</u>, proved theorems and critique arguments made by others</p> <p>MA 2 3.5 VI.d</p> | <p>Student Edition: 39-44</p> <p><i>Reading Math</i> 453</p> <p>Teacher Wraparound Edition: AE 40-41; FMC 41; PAA 44</p> |

| STANDARDS | PAGE REFERENCES |
|--|---|
| B. Apply geometric relationships | |
| apply relationships among surface areas and among volumes of <u>similar objects</u> MA 2 3.6 VI.c & I | Student Edition: 373 #56, 750 <i>Algebra Lab</i> 365 |
| C. Compose and decompose shapes | |
| 2. Specify locations and describe spatial relationships using coordinate geometry and other representational systems | |
| A. Use coordinate systems | |
| make conjectures and solve problems involving 2-dimensional objects represented with Cartesian coordinates MA 2 3.6,4.1 VI.f | Student Edition: 31 #46, 43 #37-#38, 238-241, 373 #56 <i>Algebra Lab</i> 72, 142, 237, 365 Teacher Wraparound Edition AE 238 Ex 2; FA 142; FCA 142; GC 239; PAA 241 |
| 3. Apply transformations and use symmetry to analyze mathematical situations | |
| A. Use transformations on objects | |
| use and apply constructions to represent translations, reflections, rotations, and dilations of objects MA 2 1.10 VI.b | See Glencoe's <i>Geometry</i> © 2008 Student Edition: 497-503, 504-509, 510-517, 518 #10, 524 #38-#41, 525-532, 544 #11-#13, 546 #31-#32, 547 #7-#9, 548 #2, 549 #7 <i>Geometry Lab</i> 496 |
| B. Use transformations on functions | |
| translate, dilate and reflect quadratic and exponential <u>functions</u> MA 4 3.1 VIII.i | Student Edition: 471-476, 480-485, 502-508, 517-518 <i>Graphing Calculator Lab</i> 478-479, 504 Teacher Wraparound Edition: I 474; PE 474 |
| C. Use symmetry | |
| identify types of symmetries of 2- and 3-dimensional figures MA 2 1.6,1.10 VI.f | Student Edition: 373 #56 |

| STANDARDS | PAGE REFERENCES |
|---|---|
| <p>4. Use visualization, spatial reasoning and geometric modeling to solve problems</p> | |
| <p>A. Recognize and draw three-dimensional representations</p> | |
| <p>draw representations of 3-dimensional geometric objects using a variety of tools MA 2 1.4 VI.a</p> | <p>Student Edition: 66 #4, 67 #7</p> |
| <p>B. Draw and use visual models</p> | |
| <p>draw or use <u>visual models</u> to represent and solve problems MA 2 3.1 VI.b & i</p> | <p>Student Edition: 53-58, 64, 72-75, 123-127, 143-147, 148-154, 155-161, 759 <i>Algebra Lab</i> 27-28, 59, 72, 77, 91, 142, 237, 300, 365, 375, 382-383, 396-397, 425, 432-433, 447, 602 <i>Graphing Calculator Lab</i> 162-163 Teacher Wraparound Edition: AE 54-56; SQ 53</p> |
| <p>Measurement</p> | |
| <p>1. Understand measurable attributes of objects and the units, systems and processes of measurement</p> | |
| <p>A. Determine unit of measurement</p> | |
| <p>B. Identify equivalent measures</p> | |
| <p>C. Tell and use units of time</p> | |
| <p>D. Count and compute money</p> | |
| <p>2. Apply appropriate techniques, tools and formulas to determine measurements</p> | |
| <p>A. Use standard or non-standard measurement</p> | |
| <p>B. Use angle measurement</p> | |
| <p>solve problems of angle measure of parallel lines cut by a transversal MA 2 3.1,3.4 VI.f & i</p> | <p>See Glencoe's <i>Geometry</i> © 2008 Student Edition: 142-147, 149-154, 192 #9-#12, 195 #1, 196 #4 <i>Geometry Software Lab</i> 148</p> |

| STANDARDS | PAGE REFERENCES |
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| C. Apply geometric measurements | |
| determine the surface area and volume of geometric figures, including cones, spheres, and cylinders MA 2 1.10,3.4 VI.i | Student Edition: 9, 24 #25, 31, 32 #21, 66-67, 74-75, 104 #5-#6, 142, 278 #36, 333 #41, 365, 417 #11, 548 #18, 599 #41, 708, 750, 760 #13, 764 #21, 768, 773 <i>Algebra Lab</i> 72, 142, 365 |
| D. Analyze precision | |
| analyze effects of computation on <u>precision</u> MA 2 1.7, 3.8 VI.k | Student Edition: 322-323, 326 #37-#38, 327 #52, 329, 331, 345 #44 Teacher Wraparound Edition AE 323; RWC 331; SQ 322 |
| E. Use relationships within a measurement system | |
| Data and Probability | |
| 1. Formulate questions that can be addressed with data and collect, organize and display relevant data to answer them | |
| A. Formulate questions | |
| formulate questions, design studies and collect data about a characteristic MA 3 1.2 VII.a | Student Edition: 642-647, 649, 672-676 <i>Algebra Lab</i> 678 <i>Reading Math</i> 649 Teacher Wraparound Edition: AE 643-645; PAA 648, 676; SQ 642 |
| B. Classify and organize data | |
| C. Represent and interpret data | |
| select, create and use appropriate graphical representation of data MA 6 1.8,3.6 X.b | Student Edition: 649, 663-669, 672-675, 713, 714-715, 755, 769-771, 773 <i>Reading Math</i> 649 |
| 2. Select and use appropriate statistical methods to analyze data | |
| A. Describe and analyze data | |
| apply statistical concepts to solve problems and distinguish between a statistic and a parameter MA 3 1.10,3.4 VII.g | Student Edition: 673-676, 677-683, 687-688 Teacher Wraparound Edition: AE 678-679; PAA 676; SQ 677 |

| STANDARDS | PAGE REFERENCES |
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| B. Compare data representations | |
| given <u>one-variable quantitative</u> data, display the distribution and describe its shape MA 3 1.8 VII.d & i | Student Edition: 649, 713, 714-715 <i>Reading Math</i> 649 |
| C. Represent data algebraically | |
| display and analyze <u>bivariate</u> data where one variable is <u>categorical</u> and the other is numerical MA 3 1.6 VII.e | Student Edition: 672-676, 687, 742-743, 755 <i>Reading Math</i> 649 Teacher Wraparound Edition: AE 673-674 |
| 3. Develop and evaluate inferences and predictions that are based on data | |
| A. Develop and evaluate inferences | |
| describe how sample statistics reflect the values of population parameters and use <u>sampling distributions</u> as the basis for <u>informal inference</u> MA 3 3.5 VII.a | Student Edition: 642-647, 672-676, 677-682, 685-686, 689, 742, 755 Teacher Wraparound Edition: AE 643-645, 678-679; DI 644; FMC 678; SQ 642, 677 |
| B. Analyze basic statistical techniques | |
| 4. Understand and apply basic concepts of probability | |
| A. Apply basic concepts of probability | |
| describe the concepts of <u>sample space</u> and <u>probability distribution</u> MA 3 4.1 VII.e | Student Edition: 642-647, 649, 672-676, 687, 690, 714-715, 742-743, 755 Teacher Wraparound Edition: AE 643-645, 673-674; PAA 676; SQ 672 |
| B. Use and describe compound events | |
| use and describe the concepts of <u>conditional probability</u> and <u>independent events</u> MA 6 1.10,4.1 X.d | Student Edition: 663-669, 686, 689, 743, 755, 764, 768, 773 Teacher Wraparound Edition: AE 664-665; DI 664; FMC 665; PE 667; SQ 663 |