

**GLENCOE CORRELATION**  
**ALGEBRA 1**  
**ARIZONA**  
 Academic Content Standards  
 High School

CONTENT STANDARDS	PAGE REFERENCES
<b>Strand 1: Number Sense and Operations</b>	
<b>Concept 1: Number Sense</b> Understand and apply numbers, ways of representing numbers, the relationships among numbers and different number systems.	
PO 1. Classify real numbers as members of one or more subsets: natural, whole, integers, rational, or irrational numbers.	SE: 68-70, 104, 107 #7-11, #32-49 <i>Lesson 2-7 825 #9-16</i> <i>Study Guide and Review 114 #64-66</i> TWE: IE 104
PO 2. Identify properties of the real number system: commutative, associative, distributive, identity, inverse, and closure.	SE: 21-25, 26-31, 32-36, 74-75 TWE: A 25, 36 DI 22, 29, 33 IE 33
PO 3. Distinguish between finite and infinite sets of numbers.	SE: 16-19, 25 #44-49 <i>Study Guide and Review 110</i> <i>Study Tip 68</i> TWE: IE 17
<b>Concept 2: Numerical Operations</b> Understand and apply numerical operations and their relationship to one another.	
PO 1. Select the grade level appropriate operation to solve word problems.	SE: 35 #30, 51, 75, 80 ex #4, 86 #45-46, 108 #70-72, 121, 131 ex #6, 139 #39-49 TWE: IE 121
PO 2. Solve word problems using grade level appropriate operations and numbers.	SE: 35 #30, 51, 75, 80 ex #4, 86 #45-46, 108 #70-72, 121, 131 ex #6, 139 #39-49 TWE: IE 121
PO 3. Simplify numerical expressions including signed numbers and absolute values.	SE: 28-31, 35 #32-43, 72 #68-69, 80 ex #2, 86 #37-44, 94 #57-64, 109 #85-88, 177 #46-48, 211 #69-74 TWE: IE 121
PO 4. Apply subscripts to represent ordinal position.	SE: 256, 286 <i>Study Guide and Review 311</i> TWE: DI 257
PO 5. Use grade level appropriate mathematical terminology.	SE: 68-69, 74-75, 84, 103-105, 137, 155-156, 197-198, 298, 598-599 <i>Reading Mathematics 263</i>
PO 6. Compute using scientific notation.	SE: 425-430, 436 #61-64, 443 #51-54 <i>Practice Test 469 #12-15</i> <i>Study Guide and Review 466 #29-34</i> <i>Lesson 8-3 837 #7-18</i> TWE: A 430 DI 426 F 425 IE 426

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PO 7. Simplify numerical expressions using the order of operations.	SE: 11-15, 17 ex #2, 119 #7-14, 140 #67-70 <i>Study Guide and Review</i> 58 #21-35, 181 #27-32 TWE: A 15 DI 15 IE 12
<b>Concept 3: Estimation</b> Use estimation strategies reasonably and fluently.	
PO 1. Solve grade level appropriate problems using estimation.	SE: 18, 96-101, 142, 147 #51-52, 267 <i>Algebra Activity</i> 49 <i>Study Guide and Review</i> 114 #52-59
PO 2. Determine if a solution to a problem is reasonable.	SE: 75 ex #3, 121 ex #2, 157 ex #4, 213-214 ex #4, 282 <i>Study Guide and Review</i> 312 #70 TWE: STP 106
PO 3. Determine rational approximations of irrational numbers.	SE: 105-106, 107 #4-7, #20-31, 108 #50-51, #70-72 <i>Study Guide and Review</i> 114 #60-63 <i>Lesson 2-7</i> 825 #1-8 TWE: TNT 106
<b>Strand 2: Data Analysis, Probability, and Discrete Mathematics</b>	
<b>Concept 1: Data Analysis (Statistics)</b> Understand and apply data collection, organization and representation to analyze and sort data.	
PO 1. Formulate questions to collect data in contextual situations.	SE: <i>Algebra Activity</i> 299 <i>Reading Mathematics</i> 95
PO 2. Organize collected data into an appropriate graphical representation.	SE: 88-90, 91 #4-5, #12, 92 #16, #22, 302 #6, 303 #18, #24 <i>Algebra Activity</i> 271, 299 TWE: AA 299 TT 99
PO 3. Display data as lists, tables, matrices, and plots.	SE: 93 #28, 303-304, 718 #12, #14, 719 #42, 720 #45 <i>Algebra Activity</i> 299 <i>Graphing Calculator Investigation</i> 306-307 <i>Spreadsheet Investigation</i> 56 TWE: TT 99
PO 4. Construct equivalent displays of the same data.	SE: 45 ex #4, 46 #8, 47 #15, #18, 50 <i>Algebra Activity</i> 49 <i>Spreadsheet Investigation</i> 56 #3
PO 5. Identify graphic misrepresentations and distortions of sets of data.	SE: 52, 53 #3, 54 #10-11, 55 #18 <i>Spreadsheet Investigation</i> 56 #3 <i>Standardized Test Practice</i> 117 #20 TWE: DI 52 IE 52
PO 6. Identify which of the measures of central tendency is most appropriate in a given situation.	SE: 90-94, 109 #84 <i>Study Guide and Review</i> 113 #50-51 TWE: DI 90, 91 IE 91

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PO 7. Make reasonable predictions based upon linear patterns in data sets or scatter plots.	SE: 240, 242-244, 267, 285 #38-39, 290 #60, 291 #71 TWE: IE 242
PO 8. Make reasonable predictions for a set of data, based on patterns.	SE: 45, 50-55, 240-245, 285 #38-39, 303 #21-22, #27 <i>Algebra Activity</i> 49 TWE: IE 242
PO 9. Draw inferences from charts, tables, graphs, plots, or data sets.	SE: 282-283, 298-305 <i>Algebra Activity</i> 49 <i>Graphing Calculator Investigation</i> 306-307, 729-730 <i>Standardized Test Practice</i> 117 #20 TWE: IE 301
PO 10. Apply the concepts of mean, median, mode, range, and quartiles to summarize data sets.	SE: 87 #74-77, 90-94 <i>Getting Started</i> 67 #17-19 <i>Study Guide and Review</i> 112-113 #49-51
PO 11. Evaluate the reasonableness of conclusions drawn from data analysis.	SE: 37, 45, 50-55 <i>Algebra Activity</i> 49 <i>Study Guide and Review</i> 68 TWE: IE 51-52
PO 12. Recognize and explain the impact of interpreting data (making inferences or drawing conclusions) from a biased sample.	SE: 52, 54, 709-712 <i>Reading Mathematics</i> 714 <i>Spreadsheet Investigation</i> 56 #3 TWE: A 713 IE 709-710
PO 13. Draw a line of best fit for a scatter plot.	SE: 300-305 <i>Graphing Calculator Investigation</i> 306-307 <i>Lesson 5-7</i> 833 #15 <i>Mixed Problem Solving</i> 857 #16-17 <i>Study Guide and Review</i> 312 #66-67
PO 14. Determine whether a displayed data has positive, negative, or no correlation.	SE: 298-299, 301 #1, #4-5, 302 #6 #10-13, 303 #24, 304 #38 <i>Lesson 5-7</i> 833 #1-4 TWE: AA 299
PO 15. Identify a normal distribution.	SE: 737-742 TWE: DI 738 IE 739
PO 16. Identify differences between sampling and census.	SE: 708, 710 #1, #6-7, 711 #8-19, 712 #20-21 TWE: DI 710
PO 17. Identify differences between biased and unbiased samples.	SE: 709-712 <i>Lesson 13-1</i> 849 #1-8 <i>Mixed Problem Solving</i> 865 #2 <i>Reading Mathematics</i> 714 <i>Study Guide and Review</i> 745-746 TWE: DI 52

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<b>Concept 2: Probability</b>	
Understand and apply the basic concepts of probability.	
PO 1. Find the probability that a specific event will occur, with or without replacement.	SE: 96-101, 109 #80-83, 126 #60-62, 422 #43-44, 436 #71 <i>Algebra Activity</i> 102 <i>Lesson 2-6</i> 824 <i>Study Guide and Review</i> 113-114 #52-59
PO 2. Determine simple probabilities related to geometric figures.	SE: 99 #28-33, 100 #51-53, 775 #41-47
PO 3. Predict the outcome of a grade level appropriate probability experiment.	SE: <i>Algebra Activity</i> 102, 783 TWE: A 788 DI 98 TNT 97
PO 4. Record the data from performing a grade level appropriate probability experiment.	TWE: AA 783 DI 98, 778 TNT 97, 779 TT 85
PO 5. Compare the outcome of an experiment to predictions made prior to performing the experiment.	SE: <i>Algebra Activity</i> 783 TWE: A 788 DI 98, 786 TNT 97
PO 6. Distinguish between independent and dependent events.	SE: 769-776, 781 #27-29 <i>Lesson 14-3</i> 851 TWE: DI 770 F 769 IE 770-772
PO 7. Compare the results of two repetitions of the same grade level appropriate probability experiment.	SE: <i>Algebra Activity</i> 783 TWE: AA 783 DI 98 TNT 97
<b>Concept 3: Discrete Mathematics – Systematic Listing and Counting</b>	
Understand and demonstrate the systematic listing and counting of possible outcomes.	
PO 1. Determine the number of possible outcomes for a contextual event using a chart, a tree diagram, or the counting principle.	SE: 754-758, 760, 767 #58, 779 #4-6, #14-17, 780 #18-20, 788 #42-44 <i>Algebra Activity</i> 759 TWE: A 758 IE 755-756
PO 2. Determine when to use combinations versus permutations in counting objects.	SE: 760-767 <i>Lesson 14-2</i> 851 #1-7 <i>Reading Mathematics</i> 768 <i>Study Guide and Review</i> 790 TWE: A 767
PO 3. Use combinations or permutations to solve contextual problems.	SE: 760-767, 766 #55-56 <i>Lesson 14-2</i> 851 <i>Study Guide and Review</i> 790 #12-17 TWE: IE 761-763

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<b>Concept 4: Vertex-Edge Graphs</b> Understand and apply vertex-edge graphs.	
<b>Strand 3: Patterns, Algebra, and Functions</b>	
<b>Concept 1: Patterns</b> Identify patterns and apply pattern recognition to reason mathematically.	
PO 1. Communicate a grade level appropriate iterative or recursive pattern, using symbols or numbers.	SE: 234-237, 240-245 <i>Reading Mathematics</i> 239 <i>Spreadsheet Investigation</i> 232 <i>Study Guide and Review</i> 249-250 TWE: IE 241-242
PO 2. Find the $n^{\text{th}}$ term of an iterative or recursive pattern.	SE: 235, 236 #8-11, 237 #27-36 <i>Lesson 4-7</i> 830 #13-18 <i>Spreadsheet Investigation</i> 232 TWE: IE 235
PO 3. Evaluate problems using basic recursion formulas.	SE: 47 #19, 213-216, 218-223, 233-238 <i>Graphing Calculator Investigation</i> 224-225 <i>Lesson 4-7</i> 830 #13-18 <i>Spreadsheet Investigation</i> 232 TWE: F 233
<b>Concept 2: Functions and Relationships</b> Describe and model functions and their relationships.	
PO 1. Determine if a relationship is a function, given a graph, table, or set of ordered pairs.	SE: 226-227, 229-230, 240 <i>Lesson 4-6</i> 830 #1-7 TWE: A 231 F 226 IE 227
PO 2. Describe a contextual situation that is depicted by a given graph.	SE: 17-18, 21, 24, 26-27, 30, 43-48, 50-55, 73 <i>Algebra Activity</i> 49 <i>Spreadsheet Investigation</i> 56
PO 3. Identify a graph that models a given real-world situation.	SE: 17-18, 21, 24, 26-27, 30, 43-48, 50-55, 73 <i>Algebra Activity</i> 49 <i>Spreadsheet Investigation</i> 56
PO 4. Sketch a graph that models a given contextual situation.	SE: 45 ex #4, 46 #8, 47 #15, #18, 48 #22, 78 #71, 89-93 <i>Algebra Activity</i> 49 <i>Study Guide and Review</i> 62 #81, #83
PO 5. Determine domain and range for a function.	SE: 45 ex #5, 206, 209 #18-25, 210, 285 #52-53, 344 #667 <i>Algebra Activity</i> 271 <i>Study Guide and Review</i> 248 #21-24 TWE: IE 45
PO 6. Determine the solution to a contextual maximum/minimum problem, given the graphical representation.	SE: 525-526, 528-530, 538 #53-55 <i>Practice Quiz</i> 544 #1-3, 579 #4-7 TWE: IE 526
PO 7. Express the relationship between two variables using tables/matrices, equations, or graphs.	SE: 47, 213-217, 218-223, 226, 229, 235 <i>Graphing Calculator Investigation</i> 224-225 TWE: IE 214, 219

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PO 8. Interpret the relationship between data suggested by tables/matrices, equations, or graphs.	SE: 47, 213-217, 218-223, 556-559, 561-565, 715-720, 732 <i>Algebra Activity 573</i> <i>Graphing Calculator Investigation 729-730</i>
PO 9. Determine from two linear equations whether the lines are parallel, perpendicular, coincident, or intersecting but not perpendicular.	SE: 292-293 ex #1, 294-296, 369-374 <i>Algebra Activity 293</i> <i>Graphing Calculator Investigation 375</i> <i>Study Guide and Review 311-312, 399</i> TWE: A 297 IE 293-294, 370
<b>Concept 3: Algebraic Representations</b> Represent and analyze mathematical situations and structures using algebraic representations.	
PO 1. Evaluate algebraic expressions, including absolute value and square roots.	SE: 11-15, 23, 25, 33, 48, 130, 170, 351, 376-381 <i>Getting Started 119</i>
PO 2. Simplify algebraic expressions.	SE: 17, 29, 33-35, 42 #54-59, 386 #51-54 <i>Algebra Activity 451</i> <i>Study Guide and Review 60</i> TWE: DI 15 IE 34
PO 3. Multiply and divide monomial expressions with integral exponents.	SE: 417-423, 444-449, 664, 666 <i>Algebra Activity 450-451</i> <i>Study Guide and Review 464-465</i> TWE: IE 418-419, 45
PO 4. Translate a written expression or sentence into a mathematical expression or sentence.	SE: 120-126, 136, 140 #57, 144, 172-173, 492 <i>Study Guide and Review 58</i> TWE: A 126 IE 121-123
PO 5. Translate a sentence written in context into an algebraic equation involving multiple operations.	SE: 124-126, 131, 144, 172-173, 492 <i>Algebra Activity 122</i> TWE: A 126 IE 122
PO 6. Write a linear equation for a table of values.	SE: 128, 133 #58-64, 237 #51, 242-243, 245 <i>Spreadsheet Investigation 232</i> TWE: IE 242
PO 7. Write a linear algebraic sentence that represents a data set that models a contextual situation.	SE: 213 ex #4, 237 #51, 242 ex #3, 245, 266 ex #5, 267 #12, 269 #52, #54, 274, 276 #45, #47
PO 8. Solve linear (first degree) equations in one variable (may include absolute value).	SE: 128-134, 135-140, 142-148 <i>Algebra Activity 127, 141</i> TWE: IE 129-131, 136-137, 143-144
PO 9. Solve linear inequalities in one variable.	SE: 318-323, 325-331, 332-337, 344 #59-62 <i>Algebra Activity 324</i> TWE: DI 321 IE 319-320, 326-328, 333-334
PO 10. Write an equation of the line given: two points on the line, the slope and a point on the line, or the graph of the line.	SE: 240, 242-245, 262 #63-64, 273 ex #2, 275-276, 280-285, 286-291 <i>Study Guide and Review 250 #52-53</i> TWE: IE 273, 281

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PO 11. Solve an algebraic proportion.	SE: 156-159, 164 #53-55, 615 #63-68, 644 ex #3 <i>Getting Started</i> 641 #1-8 <i>Lesson 3-6</i> 827 <i>Study Guide and Review</i> 182 #39-44 TWE: IE 156-157
PO 12. Solve systems of linear equations in two variables (integral coefficients and rational solutions).	SE: 369-374, 376-381, 382-386, 387-392, 394-398 <i>Graphing Calculator Investigation</i> 375 TWE: IE 370-371, 377-378
PO 13. Add, subtract and perform scalar multiplication with matrices.	SE: 716-721, 728 #30-33 <i>Lesson 13-2</i> 849 <i>Practice Test</i> 749 #8-13 <i>Study Guide and Review</i> 746 TWE: IE 716-717
PO 14. Calculate powers and roots of real numbers, both rational and irrational, using technology when appropriate.	SE: 411, 535, 547 <i>Graphing Calculator Investigation</i> 418, 545, 553, 556 TWE: GCI 418, 556
PO 15. Simplify square roots and cube roots with monomial radicands (including those with variables) that are perfect squares or perfect cubes.	SE: 103-104, 107-108, 126 #56-59, 586-592, 593-597 TWE: IE 587-589, 594
PO 16. Solve square root radical equations involving only one radical.	SE: 598-603, 605-610 <i>Lesson 11-3</i> 844 <i>Practice Test</i> 637 <i>Study Guide and Review</i> 634-635 TWE: A 603 GCI 600, IE 599, 606-607
PO 17. Solve quadratic equations.	SE: 533-538, 539-544, 546-552 <i>Graphing Calculator Investigation</i> 553 TWE: IE 534-535, 540-541, 547-549
PO 18. Identify the sine, cosine, and tangent ratios of the acute angles of a right triangle.	SE: 623-630, 647 #43-45 <i>Algebra Activity</i> 622 <i>Lesson 11-7</i> 846 <i>Reading Mathematics</i> 631 <i>Study Guide and Review</i> 636 TWE: IE 624-625
<b>Concept 4: Analysis of Change</b> Analyze change in a variable over time and in various contexts.	
PO 1. Determine slope, x-, and y-intercepts of a linear equation.	SE: 220-223, 257-260, 264-270, 272-277 <i>Graphing Calculator Investigation</i> 224-225 TWE: IE 220, 265, 273-274
PO 2. Solve formulas for specified variables.	SE: 132 #41-42, 139 #42-45, 147 #54, 153 #48, 167-170, 172-176 <i>Practice Quiz</i> 140 <i>Study Guide and Review</i> 183-184 TWE: IE 167

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<b>Strand 4: Geometry and Measurement</b>	
<b>Concept 1: Geometric Properties</b> Analyze the attributes and properties of two- and three-dimensional shapes and develop mathematical arguments about their relationships.	
PO 1. Identify the attributes of special triangles. (isosceles, equilateral, right)	SE: 124 #27, 288 ex #5, 613 #33, 788 #55-57 <i>Algebra Activity</i> 293 <i>Prerequisite Skills</i> 810-811
PO 2. Identify the hierarchy of quadrilaterals.	SE: <i>Prerequisite Skill</i> 811
PO 3. Make a net to represent a three-dimensional object.	SE: 442 <i>Algebra Activity</i> 122, 416
PO 4. Make a three-dimensional model from a net.	SE: 442 <i>Algebra Activity</i> 122, 416
PO 5. Draw 2-dimensional and 3-dimensional figures with appropriate labels.	SE: 157, 618 #2, 627 #2 <i>Algebra Activity</i> 416, 501, 626 TWE: IE 157
PO 6. Solve problems related to complementary, supplementary, or congruent angle concepts.	SE: 380 #29 See Glencoe's <i>Geometry</i> .
PO 7. Solve problems by applying the relationship between circles, angles, and intercepted arcs.	SE: 8 #20, 134 #69-70, 420, 601 #50-53, 620 #33-35 <i>Prerequisite Skills</i> 815-816
PO 8. Solve problems by applying the relationship between radii, diameters, chords, tangents or secants.	SE: 623-630 <i>Algebra Activity</i> 626 <i>Prerequisite Skill</i> 815-816 <i>Study Guide and Review</i> 636 TWE: IE 624
PO 9. Solve problems using the triangle inequality property.	SE: 346-348 <i>Algebra Activity</i> 347 <i>Study Guide and Review</i> 362 TWE: IE 347-348 TT 349
PO 10. Solve problems using special case right triangles.	SE: 124 #27, 288 ex #5, 613 #33, 788 #55-57 <i>Algebra Activity</i> 293 <i>Prerequisite Skills</i> 810-811
PO 11. Determine when triangles are congruent by applying SSS, ASA, AAS or SAS.	This objective can be referenced in Glencoe's <i>Geometry</i> .
PO 12. Determine when triangles are similar by applying SAS, SSS, or AA similarity postulates.	SE: 616-621 <i>Lesson 11-6</i> 845 <i>Study Guide and Review</i> 635-636 TWE: IE 617
PO 13. Construct a triangle congruent to a given triangle.	This objective can be referenced in Glencoe's <i>Geometry</i> .
PO 14. Solve contextual situations using angle and side length relationships.	SE: 373 #42-43, 441 #30-31, 457 #63-64, 616-621, 647 #43-45, 775 #41-43 <i>Practice Test</i> 469
<b>Concept 2: Transformation of Shapes</b> Apply spatial reasoning to create transformations and use symmetry to analyze mathematical situations.	
PO 1. Sketch the planar figure that is the result of two or more transformations.	SE: <i>Graphing Calculator Investigation</i> 556

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PO 2. Identify the properties of the planar figure that is the result of two or more transformations.	SE: 59 #42-44 <i>Graphing Calculator Investigation 556</i>
PO 3. Determine the new coordinates of a point when a single transformation is performed on a planar geometric figure.	SE: 198-203, 217 #59-60 TWE: IE 199-200
PO 4. Determine whether a given pair of figures on a coordinate plane represents a translation, reflection, rotation, or dilation.	SE: 197, 200-201, 211 #57-59, 415 #71-73 TWE: IE 198
PO 5. Classify transformations based on whether they produce congruent or similar figures.	SE: 197-198, 200-203, 211 <i>Study Guide and Review 247</i> TWE: A 203
PO 6. Determine the effects of a single transformation on linear or area measurements of a planar geometric figure.	SE: 559 #42-44 <i>Graphing Calculator Investigation 556</i> TWE: F 197
<b>Concept 3: Coordinate Geometry</b> Specify and describe spatial relationships using coordinate geometry and other representational systems.	
PO 1. Graph a quadratic equation with lead coefficient equal to one.	SE: 533-538, 544 #56-58 <i>Graphing Calculator Investigation 531-532, 545, 553</i> <i>Study Guide and Review 574-575</i> TWE: IE 534-535
PO 2. Graph a linear equation in two variables.	SE: 218-223, 231 #56-58, 351 #74-79 <i>Getting Started 367</i> <i>Graphing Calculator Investigation 224-225</i> <i>Study Guide and Review 248-249</i> TWE: IE 219-220
PO 3. Graph a linear inequality in two variables.	SE: 352-357, 392 #54-57, 415 #61-63 <i>Graphing Calculator Investigation 358</i> <i>Study Guide and Review 362</i> TWE: IE 353-354
PO 4. Determine the solution to a system of equations in two variables from a given graph.	SE: 369-374, 376-377 <i>Graphing Calculator Investigation 375</i> <i>Practice Quiz 381</i> TWE: F 218, 369 IE 370-371
PO 5. Determine the midpoint between two points in a coordinate system.	SE: 196 #48-50
PO 6. Determine changes in the graph of a linear function when constants and coefficients in its equation are varied.	SE: 218-228, 370-372 <i>Getting Started 523 #1-8</i>
PO 7. Determine the distance between two points in the coordinate system.	SE: 611-615, 621 #39-42 <i>Practice Test 637</i> <i>Study Guide and Review 635</i> TWE: DI 612, 613 IE 612

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<b>Concept 4: Measurement - Units of Measure - Geometric Objects</b>	
Understand and apply appropriate units of measure, measurement techniques, and formulas to determine measurements.	
PO 1. Calculate the area of geometric shapes composed of two or more geometric figures.	SE: 147 #54, 420, 433-435, 462 #46-47, 485 #44-45, 505 #15, 537 #43 <i>Algebra Activity</i> 416 TWE: IE 433
PO 2. Calculate the volumes of three-dimensional geometric figures.	SE: 124 #24, #26, 125 #42, #44, 414 #46-48, 415 #60, 456 #43-44, 513 #41, 670 #39, 695 #33 <i>Getting Started</i> 409
PO 3. Calculate the surface areas of three-dimensional geometric figures.	SE: 9 #44 <i>Algebra Activity</i> 122, 416 <i>Mixed Problem Solving</i> 853 #1-2, 855 #1-4, 860 #1-4
PO 4. Compare perimeter, area, or volume of figures when dimensions are changed.	SE: 422 #39-40, 456 #53, 489, 492 ex #6, 508, 601 #53
PO 5. Find the length of a circular arc.	This objective can be referenced in Glencoe's <i>Geometry</i> .
PO 6. Find the area of a sector of a circle.	SE: 601 #52, 609 #48
PO 7. Solve for missing measures in a pyramid. (i.e., slant height, height)	SE: 13, 133
PO 8. Find the sum of the interior and exterior angles of a polygon.	SE: 47 #17-19 <i>Prerequisite Skill</i> 810
PO 9. Solve scale factor problems using ratios and proportions.	SE: 155-159 <i>Reading Mathematics</i> 165 TWE: A 159 F 155 IE 156-157 TT 164
PO 10. Solve applied problems using similar triangles.	SE: 616, 618 ex #5, 619 #26-28, 620 #29-32 TWE: IE 618
<b>Strand 5: Structure and Logic</b>	
<b>Concept 1: Algorithms and Algorithmic Thinking</b>	
Use reasoning to solve mathematical problems in contextual situations.	
PO 1. Determine whether a given procedure for simplifying an expression is valid.	SE: 29 #3, 413 #3, 414 #55-57, 421 #3, 441 #3, 686 #3
PO 2. Determine whether a given procedure for solving an equation is valid.	SE: 13 #3, 76 #3, 138 #3, 214 #3, 348 #3, 381 #39, 492 #3, 504 #4, 550 #3, 600 #4 TWE: DI 498
PO 3. Determine whether a given procedure for solving a linear inequality is valid.	SE: 329 #3, 343 #49, 396 #3
PO 4. Select an algorithm that explains a particular mathematical process.	SE: 13 #2, 132, 222, 237, 274, 333 <i>Spreadsheet Investigation</i> 232
PO 5. Determine the purpose of a simple mathematical algorithm.	SE: 9 #47, 13, 131, 136, 256, 273, 332
PO 6. Determine whether given simple mathematical algorithms are equivalent.	SE: 29, 129, 171, 345, 350, 652 #55, 663 #42 <i>Reading Mathematics</i> 10

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<b>Concept 2: Logic, Reasoning, Arguments, and Mathematical Proof</b>	
Evaluate situations, select problem-solving strategies, draw logical conclusions, develop and describe solutions and recognize their applications.	
PO 1. Draw a simple valid conclusion from a given <i>if...then</i> statement and a minor premise.	SE: 37-42 TWE: A 42 F 37 IE 38, 39
PO 2. List related <i>if... then</i> statements in logical order.	SE: 38, 42
PO 3. Write an appropriate conjecture given a certain set of circumstances.	SE: 291 #71, 614 #43 <i>Algebra Activity</i> 22, 28, 49, 207, 293, 783 <i>Graphing Calculator Investigation</i> 204
PO 4. Analyze assertions related to a contextual situation by using principles of logic.	SE: 37-42, 291 #70 <i>Algebra Activity</i> 49 TWE: A 42 DI 558 F 37 IE 38-39
PO 5. Identify a valid conjecture using inductive reasoning.	SE: 240-241, 243, 244 #12-13 <i>Algebra Activity</i> 241 <i>Reading Mathematics</i> 239
PO 6. Distinguish valid arguments from invalid arguments.	SE: 41 #30-35, 414 #55-7, 674 #4, 683 #58, 717 #3 <i>Algebra Activity</i> 49 <i>Getting Started</i> 707 #1-4
PO 7. Create inductive and deductive arguments concerning geometric ideas and relationships, such as congruence, similarity, and the Pythagorean relationship.	SE: 548, 597 #49, 607 #2, 608, 618 #3, 620 #33-35 TWE: DI 607
PO 8. Critique inductive and deductive arguments concerning geometric ideas and relationships, such as congruence, similarity, and the Pythagorean relationship.	SE: 548, 572 #62 <i>Algebra Activity</i> 49, 626
PO 9. Identify a counterexample for a given conjecture.	SE: 39, 40, 536 #3
PO 10. Construct a counterexample to show that a given conjecture is false.	SE: 39, 40-41, 154 #63-64, 434 #3, 662 #2, 694 #3, 733 #1, 772 #2
PO 11. State the inverse, converse, or contrapositive of a given statement.	SE: 37-42, 645 #3, 646 #38-40
PO 12. Determine if the inverse, converse, or contrapositive of a given statement is true or false.	SE: 37-42, 645 #3, 646 #38-40
PO 13. Construct a simple formal or informal deductive proof.	SE: 38-39, 570 #3, 289 #3, 597 #50, 621 #43-46, 630 #66 <i>Reading Mathematics</i> 239 TWE: A 42 IE 38, 39

CONTENT STANDARDS	PAGE REFERENCES
PO 14. Verify characteristics of a given geometric figure using coordinate formulas such as distance, mid-point, and slope to confirm parallelism, perpendicularity, and congruency.	SE: 196 #48-50, 292-297, 527, 612 #2-3, 662 #3 TWE: A 297 DI 294 F 292

### Codes Used for TWE Pages

A	Assess
AA	Algebra Activity
DI	Daily Intervention
F	Focus
GCI	Graphing Calculator Investigation
IE	In-Class ex
STP	Standardized Test Practice
TNT	Tips for New Teachers
TT	Teacher to Teacher