



GEOMETRY ©2005

Missouri

Missouri Framework for Curriculum Development in Mathematics Grades 9-12

CONTENT STANDARDS	PAGE REFERENCES
I. Problem Solving	
<i>By the end of grade 12, all students should be able to:</i>	
a. use problem-solving strategies to investigate and understand mathematical content (NCTM Standard 1; MO 1.6, 3.5)	SE: 33, 41, 48, 90–91, 154, 345, 434, 442, 448, 611, 792–794 TWE: 33, 41, 48, 90–91, 154, 345, 434, 442, 448, 611, 792–794
b. recognize and formulate problems from situations within and outside mathematics (NCTM Standard 1; MO 3.1, 3.5)	SE: 34–35, 42, 93, 98, 154, 201, 225, 272, 330, 347, 351, 369, 375, 404, 422, 467, 504, 510, 526, 579, 614, 675, 689, 700 TWE: 34–35, 42, 93, 98, 154, 201, 225, 272, 330, 347, 351, 369, 375, 404, 422, 467, 504, 510, 526, 579, 614, 675, 689, 700
c. organize, develop and apply integrated mathematical problem-solving strategies to solve problems within and outside mathematics (NCTM Standard 1; MO 3.2, 3.3)	SE: 27, 42, 93, 98, 107, 154, 201, 225, 272, 303, 330, 347, 351, 369, 375, 404, 422, 467, 504, 510, 526, 579, 614, 620, 675, 689 TWE: 27, 42, 93, 98, 107, 154, 201, 225, 272, 303, 330, 347, 351, 369, 375, 404, 422, 467, 504, 510, 526, 579, 614, 620, 675, 689
d. apply the process of mathematical modeling to real-world problem situations (NCTM Standard 1; MO 2.1, 3.6)	SE: 43, 65, 98, 107, 149, 156, 196, 225, 253, 294, 304, 310, 316, 375, 480, 526, 550, 579, 652, 664, 669, 705, 711 TWE: 43, 65, 98, 107, 149, 156, 196, 225, 253, 294, 304, 310, 316, 375, 480, 526, 550, 579, 652, 664, 669, 705, 711
e. analyze, evaluate, and reflect upon the process(es) used in solving problems (NCTM Standard 1; MO 2.2, 3.4, 3.6, 3.7, 3.8)	SE: 33, 41, 48, 90–91, 154, 345, 434, 442, 448, 611, 792–794 TWE: 33, 41, 48, 90–91, 154, 345, 434, 442, 448, 611, 792–794

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II. Communication	
<i>By the end of grade 12, all students should be able to:</i>	
a. reflect upon and clarify thinking about mathematical ideas and relationships (NCTM Standard 2; MO 1.6, 2.2)	SE: 60–66, 69–74, 82–88, 89–93, 94–99 TWE: 60–66, 69–74, 82–88, 89–93, 94–99
b. interpret generalizations discovered through investigations to formulate, revise, and adjust mathematical definitions (NCTM Standard 2; MO 1.2, 1.7, 2.2)	SE: 11, 43, 99, 130, 205, 253, 272, 355, 389, 416, 450, 480, 505, 534, 542, 567, 579, 608, 641, 656, 693, 712 TWE: T3, 11, 43, 99, 130, 205, 253, 272, 355, 389, 416, 450, 480, 505, 534, 542, 567, 579, 608, 641, 656, 693, 712
c. visualize mathematical ideas by reading about, listening to, or viewing concrete models (NCTM Standard 2; MO 1.9, 2.4)	SE: 7, 9–10, 12, 81, 199, 246, 446, 594 TWE: T6–T7, 4F, 7, 9–10, 12, 60B, 81, 124F, 148, 199, 234B, 246, 248, 340F, 402B, 428, 446, 520B, 592F, 594, 634B, 686F, 701, 720
d. plan and create effective verbal and non-verbal forms of communicating mathematics for a variety of purposes and audiences (NCTM Standard 2; MO 2.1)	SE: 11, 34, 50, 93, 138, 157, 205, 213, 253, 305, 369, 389, 430, 444, 481, 505, 527, 558, 579, 627, 653, 669, 719 TWE: 11, 34, 50, 93, 138, 157, 205, 213, 253, 305, 369, 389, 430, 444, 481, 505, 527, 558, 579, 627, 653, 669, 719
e. present mathematical ideas and logical justifications, both written and oral (NCTM Standard 2; MO 2.1, 3.5, 4.1)	SE: 29, 27, 43, 93, 138, 157, 205, 213, 253, 305, 369, 389, 430, 444, 481, 505, 527, 558, 579, 627, 653, 658, 701, 706 TWE: 29, 27, 43, 93, 138, 157, 205, 213, 253, 305, 369, 389, 430, 444, 481, 505, 527, 558, 579, 627, 653, 658, 701, 706
f. ask clarifying and extending questions about the mathematics read about, heard about, or viewed through models (NCTM Standard 2; MO 2.3)	SE: 35, 50, 65, 79, 99, 130, 182, 205, 321, 355, 408, 416, 473, 480, 534, 541, 579, 599, 647, 653, 706, 712 TWE: 35, 50, 65, 79, 99, 130, 182, 205, 321, 355, 408, 416, 473, 480, 534, 541, 579, 599, 647, 653, 706, 712
g. recognize the economy, power, and elegance of mathematics notation and its role in the development of mathematical ideas (NCTM Standard 2; MO 1.6, 1.9, 2.4)	SE: 7, 34, 87, 97, 149, 163, 197, 219, 243, 253, 254, 287, 305, 382, 415, 423, 443, 475, 488, 496, 532, 558, 600, 614, 627, 670, 694, 713, 719 TWE: 7, 34, 87, 97, 149, 163, 197, 219, 243, 253, 254, 287, 305, 382, 415, 423, 443, 475, 488, 496, 532, 558, 600, 614, 627, 670, 694, 713, 719

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h. read, write, and talk about mathematical ideas as they relate to real-life applications and multiple workplace situations (NCTM Standard 2; MO 1.10, 2.6, 3.2, 4.8)	SE: 25, 43, 50, 147, 162, 257, 263, 286, 305, 330, 353, 387, 409, 436, 449, 474, 485, 527, 551, 577, 600, 620, 639, 657 TWE: 25, 43, 50, 147, 162, 257, 263, 286, 305, 330, 353, 387, 409, 436, 449, 474, 485, 527, 551, 577, 600, 620, 639, 657
III. Reasoning	
<i>By the end of grade 12, all students should be able to:</i>	
a. make and test conjectures (NCTM Standard 3; MO 1.7)	SE: 22, 62–66, 115, 324, 647 TWE: 22, 62–66, 115, 324, 647
b. defend the validity of their conclusions using mathematical strategies (NCTM Standard 3; MO 3.4, 3.7, 3.8, 4.1)	SE: 11, 42, 99, 130, 182, 205, 226, 265, 296, 321, 330, 355, 382, 408, 422, 450, 480, 505, 539, 542, 567, 579, 608, 647, 653, 669, 700, 719 TWE: T3, 11, 42, 99, 130, 182, 205, 226, 265, 296, 321, 330, 355, 382, 408, 422, 450, 480, 505, 539, 542, 567, 579, 608, 647, 653, 669, 700, 719
c. follow the mathematical reasoning of others and determine validity (NCTM Standard 3; MO 1.5, 2.3)	The opportunity to address this objective is available. See the following: SE: 42, 73, 99, 113, 182, 205, 226, 265, 296, 321, 355, 367, 408, 422, 450, 487, 527, 551, 573, 608, 616, 641, 658, 676, 700 TWE: 42, 73, 99, 113, 182, 205, 226, 265, 296, 321, 355, 367, 408, 422, 450, 487, 527, 551, 573, 608, 616, 641, 658, 676, 700
d. apply inductive and deductive reasoning (NCTM Standard 3; MO 3.5)	SE: 62–66, 82–87, 94, 115, 117 TWE: 62–66, 82–87, 94, 115, 117
IV. Connections	
<i>By the end of grade 12, all students should be able to:</i>	
a. recognize and/or derive equivalent representations for a concept (NCTM Standard 4; MO 1.6)	SE: 53–56, 115–120, 167–169, 227–230, 274–276, 332–336, 392–396, 452–456, 512–516, 581–586, 628–630, 678–682, 720–722 TWE: 53–56, 115–120, 167–169, 227–230, 274–276, 332–336, 392–396, 452–456, 512–516, 581–586, 628–630, 678–682, 720–722

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b. analyze and relate procedures in multiple representations (NCTM Standard 4; MO 1.5, 3.6)	SE: 53–56, 115–120, 167–169, 227–230, 274–276, 332–336, 392–396, 452–456, 512–516, 581–586, 628–630, 678–682, 720–722 TWE: 53–56, 115–120, 167–169, 227–230, 274–276, 332–336, 392–396, 452–456, 512–516, 581–586, 628–630, 678–682, 720–722
c. relate and describe the connections within topics of mathematics and other disciplines (NCTM Standard 4; MO 1.6, 1.8, 1.10)	SE: 35, 83, 98, 154, 181, 223, 260, 265, 330, 347, 369, 377, 405, 422, 463, 467, 501, 510, 579, 636, 664, 675, 705 TWE: 35, 83, 98, 154, 181, 223, 260, 265, 330, 347, 369, 377, 405, 422, 463, 467, 501, 510, 579, 636, 664, 675, 705
d. investigate and determine the importance of mathematics in their lives, future careers, and our ever-changing global society (NCTM Standard 4; MO 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8)	SE: 10, 92, 163, 209, 272, 305, 353, 422, 487, 573, 607, 658, 693 TWE: 10, 92, 163, 209, 272, 305, 353, 422, 487, 573, 607, 658, 693
e. evaluate the logic and aesthetics of mathematics as they relate to the universe (NCTM Standard 4; MO 1.10, 2.4)	This objective is covered in Glencoe <i>Algebra 1</i> , ©2003 SE: 47, 92, 135, 136, 153, 303, 378, 548, 688
V. Number Sense	
<i>By the end of grade 12, all students should be able to:</i>	
a. develop, analyze, and explain procedures used for representing and analyzing relationships in tables, verbal rules, equations, and graphs (NCTM Standards 5 and 6; MO 1.6, 1.8, 1.10, 2.6)	SE: 145–150, 575–580, 737–738, 741–743, 750–751 TWE: 145–150, 575–580, 737–738, 741–743, 750–751
b. analyze the effects of parameter changes on the graphs of functions (NCTM Standards 5 and 6; MO 1.6, 3.6, 4.1, 4.7)	SE: 145–147, 575–580 TWE: 145–147, 575–580
c. analyze and describe relationships and the resulting effects between changes in an independent variable and a dependent variable (NCTM Standards 5 and 6; MO 1.6, 3.3, 4.1)	This objective is covered in Glencoe <i>Algebra 1</i> , ©2003 SE: 44, 46, 213–214, 216 <i>Algebra Activity 271</i>

CONTENT STANDARDS	PAGE REFERENCES
VI. Geometric and Spatial Sense	
<i>By the end of grade 12, all students should be able to:</i>	
a. interpret and draw three-dimensional objects (NCTM Standard 7; MO 1.5, 1.9, 2.7)	SE: 126, 363–369, 636–642, 643–648 TWE: 126, 363–369, 636–642, 643–648
b. represent and solve problem situations with geometric models and apply properties of figures (NCTM Standard 7; MO 1.5, 2.7, 3.7)	SE: 28, 38, 126, 165–166, 208, 214, 298, 334, 349, 363–369, 411, 441, 462, 489, 524, 560, 601, 636–642, 643–648, 672, 676 TWE: 28, 38, 126, 165–166, 208, 214, 298, 334, 349, 363–369, 411, 441, 462, 489, 524, 560, 601, 636–642, 643–648, 672, 676
c. classify figures in terms of congruence and similarity and apply these relationships (NCTM Standard 7; MO 1.1, 1.4, 1.6, 3.5)	SE: 192–197, 200–206, 207–213, 289–297, 298–305, 316–322, 707–712 TWE: 192–197, 200–206, 207–213, 289–297, 298–305, 316–322, 707–712
d. deduce properties of, and relationships between, figures from given assumptions (NCTM Standard 7; MO 1.6, 1.8, 2.4, 3.5)	SE: 192–197, 200–206, 207–213, 282–286, 289–297, 298–305, 325–330, 316–322, 357–362, 707–712 TWE: 192–197, 200–206, 207–213, 282–286, 289–297, 298–305, 325–330, 316–322, 357–362, 707–712
e. translate between synthetic and coordinate representations using a variety of methods and technologies (NCTM Standard 8; MO 1.4, 2.7)	The opportunity to address this objective is available. See the following: SE: 48, 162, 145–148, 243, 287, 306, 352, 390, 415, 432, 440, 447, 468, 480, 495, 575–580, 600, 614, 620, 642, 667, 703 TWE: 48, 162, 145–148, 243, 287, 306, 352, 390, 415, 432, 440, 447, 468, 480, 495, 575–580, 600, 614, 620, 642, 667, 703
f. deduce properties of figures using transformations and coordinates (NCTM Standard 8; MO 2.4, 3.5)	SE: 462–469, 470–475, 476–481, 489, 490–496, 506–511 TWE: 462–469, 470–475, 476–481, 489, 490–496, 506–511
g. identify congruent and similar figures using transformations (NCTM Standard 8; MO 1.5, 3.5, 3.6)	SE: 491–496 TWE: 491–496
h. analyze properties of transformations and relate translations to vectors (NCTM Standard 8; MO 1.6, 2.4, 3.6, 4.1)	SE: 500–504 TWE: 500–504

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i. apply an understanding of perimeter, area, volume, angle measure, capacity, weight and mass (NCTM Standard 7; MO 2.5, 3.3, 4.1)	SE: 37–43, 46–47, 185–190, 595–600, 601–608, 609–616, 688–694, 696–700, 702–706, 732–733 TWE: 37–43, 46–47, 185–190, 595–600, 601–608, 609–616, 688–694, 696–700, 702–706, 732–733
j. model, describe, and analyze maximum and minimum points on a graph (NCTM Standard 13; MO 1.6, 2.1, 4.3, 4.7)	This objective is covered in Glencoe <i>Algebra 1</i> , ©2003 SE: 524-530 Graphing Calculator Investigation 531-532 Study Guide and Review 574 TWE: DI 526 IE 525, 526, 527
k. model, describe, and analyze patterns of sequences through processes of geometric change, approximations, and limits (NCTM Standard 14; MO 1.6, 2.1, 4.3, 4.7)	This objective is covered in Glencoe <i>Algebra 1</i> , ©2003 SE: 240-241, 243-245, 567-572 TWE: IE 241, 568, 569 OA 245, 572
l. recognize and apply trigonometry to problem situations (NCTM Standard 9; MO 3.1, 3.6, 4.2, 4.8)	SE: 364–370, 371–376, 377–382, 384–390 TWE: 364–370, 371–376, 377–382, 384–390
VII. Data Analysis, Probability and Statistics	
By the end of grade 12, all students should be able to:	
a. interpret and summarize data from charts, tables, and graphs that appear in real-world situations (NCTM Standard 10; MO 1.1, 1.8)	This objective is covered in Glencoe <i>Algebra 1</i> , ©2003 SE: 50-55, 88-94, 209, 298-305, 722-728, 731-734, 737-742 <i>Algebra Activity 49</i> <i>Spreadsheet Investigation 56</i> TWE: IE 91
b. apply curve-fitting to make defensible predictions (NCTM Standard 10; MO 1.4, 2.7, 3.2)	This objective is covered in Glencoe <i>Algebra 1</i> , ©2003 SE: 298-305 <i>Graphing Calculator Investigation 306-307</i> TWE: IE 299, 300, 301 OA 305

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c. apply the appropriate statistical measures including central tendency, variability, and correlation to a situation (NCTM Standard 10; MO 1.2, 1.5, 3.2)	This objective is covered in Glencoe <i>Algebra 1</i> , ©2003 SE: 84, 87, 90-93, 156, 731-736 <i>Getting Started</i> 67, 707 <i>Study Guide and Review</i> 113 TWE: DI 91, 733 IE 91
d. investigate the effects of data transformations on variability and measures of central tendency (NCTM Standard 10; MO 1.1, 1.4, 2.7)	This objective is covered in Glencoe <i>Algebra 1</i> , ©2003 SE: 733-736, 737, 739 <i>Extra Practice</i> 850 <i>Study Guide and Review</i> 747-748 TWE: IE 733
e. investigate the concept of a random variable (NCTM Standard 10; MO 1.4, 2.7, 3.2)	This objective is covered in Glencoe <i>Algebra 1</i> , ©2003 SE: 777-781 TWE: IE 778
f. design and interpret simulations to estimate probabilities (NCTM Standard 11; MO 1.3, 3.3, 3.6)	The opportunity to address this objective is available. See the following: SE: 20, 265, 527, 622–627, 700, 705 TWE: 20, 265, 527, 622–627, 700, 705
g. apply theoretical probability to real-world problems (NCTM Standard 11; MO 1.7, 3.8)	SE: 20, 265, 527, 622–627, 700, 705 TWE: 20, 265, 527, 622–627, 700, 705
h. apply experimental probability to real-world problems (NCTM Standard 11; MO 1.7, 3.8)	SE: 622–627 TWE: 622–627
i. collect, plot, and interpret data, including that from a discrete probability distribution (NCTM Standard 11; MO 1.2, 1.6, 3.6)	This objective is covered in Glencoe <i>Algebra 1</i> , ©2003 SE: 96-101, 763, 765-766, 769-776 <i>Algebra Activity</i> 102 TWE: IE 770, 771, 772 OA 776
j. develop, interpret, and apply the normal curve in problem solving (NCTM Standard 11; MO 1.1, 3.2, 3.4)	This objective is covered in Glencoe <i>Algebra 1</i> , ©2003 SE: 96-101, 763, 765-766, 769-776 <i>Algebra Activity</i> 102 TWE: IE 770, 771, 772 OA 776

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k. determine and interpret maximum and minimum values within a data set, on a graph, or in a problem situation (NCTM Standard 13; MO 1.3, 2.1, 3.6)	This objective is covered in Glencoe <i>Algebra 1</i> , ©2003 SE: 733-736, 737, 739 <i>Extra Practice</i> 850 <i>Study Guide and Review</i> 747-748 TWE: IE 733
l. analyze an infinite series as it relates to a limiting value (NCTM Standard 13; MO 1.6, 1.8, 3.2)	This objective is covered in Glencoe <i>Algebra 1</i> , ©2003 SE: 68
VIII. Patterns and Relationships	
By the end of grade 12, all students should be able to:	
a. compare and contrast the real number system and its various subsystems with regard to their structural characteristics (NCTM Standard 14; MO 1.6, 1.8)	This objective is covered in Glencoe <i>Algebra 1</i> , ©2003 SE: 68, 70, 104-106 <i>Extra Practice</i> 825 <i>Study Guide and Review</i> 114 TWE: SN 107
b. represent and analyze relationships using verbal rules, tables and graphs as tools to interpret expressions, equations and inequalities (NCTM Standards 5 and 6; MO 1.6, 1.8, 2.1, 3.3)	SE: 145-147, 247-250, 575-577, 737-738, 739-740, 742-743, 750-751 TWE: 145-147, 247-250, 575-577, 737-738, 739-740, 742-743, 750-751
c. translate among tabular, symbolic, and graphical representations of functions and model real-world phenomena with a variety of functions (NCTM Standard 6; MO 1.6, 1.8, 2.2, 3.6)	This objective is covered in Glencoe <i>Algebra 1</i> , ©2003 SE: 226-231, 242-245, 436, 524-530, 554-560 TWE: DI 219, 227, 557
d. represent situations that involve variable quantities with expressions, equations and inequalities (NCTM Standard 5; MO 1.6, 1.8, 3.3)	SE: 145-147, 247-250, 575-577, 737-738, 739-740, 742-743, 750-751 TWE: 145-147, 247-250, 575-577, 737-738, 739-740, 742-743, 750-751
e. solve equations and inequalities (NCTM Standard 5; MO 1.6, 1.8, 2.2, 3.3)	SE: 145-147, 247-250, 575-577, 737-738, 739-740, 742-743, 750-751 TWE: 145-147, 247-250, 575-577, 737-738, 739-740, 742-743, 750-751
f. translate between synthetic and coordinate representation for geometric relationships (NCTM Standard 8; MO 1.6, 1.8, 2.2, 3.3)	SE: 145-148, 162, 243, 287, 306, 352, 390, 415, 432, 440, 447, 468, 480, 495, 575-580, 600, 614, 620, 642, 667 TWE: 145-148, 162, 243, 287, 306, 352, 390, 415, 432, 440, 447, 468, 480, 495, 575-580, 600, 614, 620, 642, 667

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g. investigate limiting processes by examining infinite sequences and series (NCTM Standard 13; MO 1.6, 1.8, 3.3)	This objective is covered in Glencoe <i>Algebra 1</i> , ©2003 SE: 68, 229-230, 267
h. apply trigonometry to problem situations involving triangles and explore real-world phenomena using the sine, cosine, and tangent functions (NCTM Standard 9; MO 1.6, 1.8, 2.2, 3.6)	SE: 364–370, 371–376, 377–382, 384–390 TWE: 364–370, 371–376, 377–382, 384–390
i. analyze effects of parameter changes on the graphs of functions using a variety of technologies to gather data (NCTM Standard 6; MO 1.4, 1.6, 2.7, 3.3)	This objective is covered in Glencoe <i>Algebra 1</i> , ©2003 SE: 52, 54 <i>Algebra Activity 271</i> TWE: IE 52
IX. Mathematical Systems and Number Theory	
<i>By the end of grade 12, all students should be able to:</i>	
a. compare and contrast the real number system and its various subsystems (NCTM Standard 14; MO 2.1, 4.1)	This objective is covered in Glencoe <i>Algebra 1</i> , ©2003 SE: 68, 70, 104-106 <i>Extra Practice 825</i> <i>Study Guide and Review 114</i> TWE: SN 107
b. select and apply appropriate technology as a problem-solving tool to achieve understanding of the logic of algebraic and geometric procedures (NCTM Standard 14; MO 1.4, 3.6)	SE: 158, 366, 524, 576, 667, 703 TWE: T4, 158, 366, 524, 576, 667, 703
c. investigate and determine similarities and differences between mathematical systems (NCTM Standard 14; MO 2.1, 4.1, 4.6)	This objective is covered in Glencoe <i>Algebra 1</i> , ©2003 SE: 50-55, 88-94, 96-101, 233-238, 292-297, 298-305, 567-572, 623-630, 782-788
d. extend understanding and application of number theory concepts (NCTM Standard 6; MO 1.6, 3.2, 3.3)	This objective is covered in Glencoe <i>Algebra 1</i> , ©2003 <i>Algebra 1</i> , ©2003 SE: 41, 70, 98, 144, 153, 244, 336, 392, 447, 478
X. Discrete Mathematics	
<i>By the end of grade 12, all students should be able to:</i>	
a. explore and solve application problems involving graph theory (airline routes, circuits, paths, connecting roads, coloring a map, etc.) (NCTM Standard 12; MO 1.6, 1.8, 2.2, 3.2, 3.3, 3.6)	This objective is covered in Glencoe <i>Algebra 1</i> , ©2003 SE: 194-195 TWE: IE 194 OA 196

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b. use tree, Venn, or student-developed diagrams as problem-solving tools (NCTM Standard 12; MO 3.2, 3.3, 3.6)	SE: 69–73 TWE: 69–73
c. use concepts from logic and/or truth tables to recognize valid and invalid arguments (NCTM Standard 3; MO 2.2, 3.5)	SE: 70–71 TWE: 70–71
d. explore applications from counting techniques such as Pascal’s Triangle, permutations, combinations, and Fibonacci sequence (NCTM Standard 12; MO 1.6, 2.2, 3.6)	SE: 327–329 TWE: 327–329
e. investigate the concepts of <i>game theory</i> * (NCTM Standard 1; MO 3.2, 3.7, 3.8) *game theory: selecting the best strategies in order to achieve the most favorable outcomes. Games are defined as having two or more players with conflicting interests.	This objective is covered in Glencoe <i>Algebra 1</i> , ©2003 SE: 100, 422
f. explore concepts from election theory (NCTM Standard 1; MO 3.2, 3.7, 4.2, 4.3)	This objective is covered in Glencoe <i>Algebra 2</i> , 2003 SE: <i>Check for Understanding</i> 655
g. investigate different approaches to apportionment and fair division, then explore their applications (e.g., division of property in estates, apportionment in the House of Representatives) (NCTM Standard 1; MO 3.2, 3.3, 3.7, 4.3)	This objective is covered in Glencoe <i>Algebra 1</i> , ©2003 SE: 84-87, 661, 663, 669-670 TWE: IE 661
h. use the concept of recursion in mathematics to solve application problems (e.g., compound interest, depreciation, radium decay, maximum storage in the least amount of space, fractals) (NCTM Standard 12; MO 1.8, 2.2, 3.2, 3.7)	SE: 327 TWE: 327