

Prentice Hall Mathematics, Geometry © 2009
Correlated to:
Ohio 8-10 Benchmarks and Grade 10 Grade Level Indicators

Prentice Hall Mathematics, Geometry Program Organization

Prentice Hall Mathematics supports student comprehension of the mathematics by providing well organized sequence of the content, structure of the daily lesson, systematic direct instruction, and teacher support provided for each lesson.

Content Sequence - Prentice Hall is organized with the goal of addressing all of the mathematics standards through direct and effective instruction, building concept upon concept, skill upon skill in an order that is pedagogically sound. The Table of Contents shows the smooth flow of the book, with prerequisite skills and concepts presented before the more complex topics that depend on them.

Starting the Chapter - Every chapter begins by reviewing the previous standards that have been learned and overviewing the standards that will be covered in the chapter. New Vocabulary is identified to prepare students for the chapter. Finally, *Check Your Readiness* questions assess student understanding of necessary prerequisite skills and identifies which lesson they can go to for any necessary remediation.

Lesson Organization - The daily lesson is structured and presented in a consistent format that enables teachers to effectively present the content and monitor student understanding.

- The **Instant Check System** is a system of assessments that helps ensure standards mastery. It is comprised of assessments to use before, during, and after instruction so teachers can easily and effectively monitor student understanding.
 - Each lesson begins with *Check Skills You'll Need* to ensure students have the necessary prerequisite skills for success in the lesson. A Go for Help reference directs them to a previous lesson if remediation is necessary.
 - *Check Skills* questions after every single example provide a way to check student understanding during instruction.
 - Finally, *Checkpoint Quizzes* occur after instruction to continually monitor student progress.
- **Daily Standards Practice** is provided with a comprehensive exercise set following every lesson. Each exercise set is leveled to ensure a variety of practice. **Test Prep and Mixed Review** ensures students also have a daily opportunity to practice concepts and skills previously mastered.

Concluding the Chapter - The following features conclude each chapter, providing opportunities for students to review all standards and demonstrate mastery. This part of the systematic instruction provides regular opportunities for review and practice and ensures focus on and mastery of the Standards.

- **Chapter Review** – The Chapter Review serves as a chapter study guide for students by reviewing the key concepts covered in each lesson and providing an opportunity to practice. In addition, key vocabulary is reviewed.
- **Chapter Test** – Students demonstrate their understanding of the entire chapter by completing this practice chapter test.
- **Standardized Test Prep Cumulative Practice** – This provides a regular opportunity for students to practice and demonstrate mastery of all the standards that have been covered. If remediation is necessary, students are directed to a previous lesson where each concept was taught.

Prentice Hall Mathematics, Geometry © 2009
Correlated to:
Ohio 8-10 Benchmarks and Grade 10 Grade Level Indicators

Assessment

Prentice Hall Mathematics provides teachers with the assessment tools needed to inform instruction and document student progress.

The **Progress Monitoring Assessments** contains all the program assessments needed to evaluate student understanding, monitor student progress, and inform future instruction. The following assessments are included:

- **Formative Assessments**
 - Screening Test – check student readiness at the beginning of the school year
 - Benchmark Tests – monitor student progress
 - Test-Taking Strategy Practice Masters – provide opportunities to improve problem-solving skills
- **Summative Assessments** – *All the summative assessments are provided in two forms – on-level and basic versions. Both forms fully assess student progress on the course content, but the basic versions have been modified for special needs students.*
 - Quarter Tests – on-level and basic versions
 - Mid-Course Tests – on-level and basic versions
 - Final Tests – on-level and basic versions

The **Test Preparation Workbook** contains review lessons and multiple-choice practice tests.

Technology, such as the **ExamView® CD-ROM**, allows teachers to create customized assessment, with all test items correlated to state standards.

Universal Access

Prentice Hall Mathematics provides better solutions for meeting the needs of every student in the classroom. Universal Access can be fostered by modifying instruction to address individual needs, and provided adapted resources when appropriate. Prentice Hall uses a systematic method for labeling and identifying resources and instructional support. This consistency helps teachers easily identify and choose the appropriate support for specific populations of students. The Teacher's Edition provides universal access strategies in detailed daily lesson plans, and daily teaching notes to help differentiate the lesson for all learners, including special needs, below level, advanced and English Language Learners. Chapter-level support pages provide teachers with an easy-to-read overview of the chapter resources available and suggest ways in the instructional lesson to use the resources. Key ancillaries to support universal access include the All-in-One Teaching Resources and the All-in-One Student Workbooks. The Teaching Resources include leveled practice for every lesson and daily activity labs. The All-in-One Student Workbook, available as both on-level and adapted for special needs, includes daily notetaking, daily practice, daily guided problem solving, and vocabulary support.

Instructional Planning and Support

Prentice Hall Mathematics is designed to provide teachers the tools needed to effectively and easily implement the program in the classroom.

A Road Map for Planning the Year - A Leveled Pacing Chart is provided in the Teacher's Edition that lays out a plan for teaching all the mathematics content standards. It suggests time to spend on each Chapter, and offers support for adjusting the instruction to meeting the pacing needs of all students.

Planning a Chapter - The Teacher's Edition begins each chapter with a series of planning pages. These pages provide an overview of the chapter and make it easy to determine how to individualize lessons for specific students.

Planning Daily Instruction - Teachers can use a variety of program materials to organize their teaching. The primary planning tools are the Teacher's Edition and the Teacher Center Planning CD-

Prentice Hall Mathematics, Geometry © 2009
Correlated to:
Ohio 8-10 Benchmarks and Grade 10 Grade Level Indicators

ROM. The Teacher's Edition includes step-by-step, daily support for directing instruction. Support is organized systematically around a 4-step teaching plan of Plan, Teach, Practice, and Assess/Reteach.

Instructional Tools to Plan, Teach, and Assess:

- **Core Components**
 - **Student Edition** – Thorough coverage of the standards, with built-in assessments and ongoing student support
 - **Teacher's Edition** – Provides comprehensive support for planning, teaching, and providing Universal Access
- **Teacher Support**
 - **All-in-One Teaching Resources** - All teaching resources are in one convenient place. Includes leveled practice, chapter projects, alternative assessments, cumulative reviews, guided problem solving masters, and vocabulary support.
 - **Progress Monitoring Assessments** – Provides support for formative and summative assessment, with comprehensive resources for monitoring progress on the standards.
 - **Test Preparation Workbook** – Provides instruction and practice on specific test taking strategies.
 - **Teacher Center CD-ROM** – The one-stop solution for planning, teaching, and assessing. The following resources are part of the Teacher Center:
 - **Planning CD-ROM** – Powerful lesson planning software, Teacher's Edition, and Teaching Resources.
 - **Presentation CD-ROM** – Complete support for digital presentations of lessons including videos, activities, stepped-out examples, quick check assessments, and online active math
 - **MindPoint Quiz Show** – Animated game show review for chapter level mathematics
 - **ExamView Test Generator CD-ROM** – Allows teachers to quickly and easily generate tests correlated to the standards.
- **Student Support**
 - **All-in-One Student Workbook** –
 - Structured daily notetaking pages for every lesson
 - Practice for every lesson
 - Guided problem solving pages for every lesson with scaffolded questions
 - Vocabulary and study skills focusing on key mathematical vocabulary
 - **All-in-One Student Workbook, Adapted Version** – Adapted for special needs students. Includes all the resources in the regular All-in-One Student Workbooks, in an adapted form.
 - **Student Center Online** – Complete interactive textbook with videos built-in at point-of-use, digital activities, stepped-out examples, vocabulary support – and more. Also includes the All-in-One Student Workbooks.
 - **Companion Websites** - Grants instant access to a wealth of resources to support learning including vocabulary quizzes, lesson quizzes, data updates, tutorials, chapter tests, and homework video tutors.
- **Transparency Package**
 - **Classroom Aid Transparencies** - Full-color multi-use transparencies such as graphs, fraction strips, and manipulatives
 - **Additional Examples on Transparencies**
 - **Daily Skills Check and Lesson Quiz Transparencies**
 - **Standards Review Transparencies**
 - **Student Edition Answers on Transparencies**

Prentice Hall Mathematics, Geometry © 2009
Correlated to:
Ohio 8-10 Benchmarks and Grade 10 Grade Level Indicators

OHIO BENCHMARKS AND GRADE LEVEL INDICATORS	Prentice Hall Mathematics, Geometry © 2009
K-12 Mathematics Benchmarks	
By the end of the 8-10 program:	
Number, Number Sense and Operations	
A. Use scientific notation to express large numbers and numbers less than one.	SE/TE: This is covered extensively in Prentice Hall Algebra 1.
B. Identify subsets of the real number system.	SE/TE: 8, 62, 378, 767
C. Apply properties of operations and the real number system, and justify when they hold for a set of numbers.	SE/TE: This is covered extensively in Prentice Hall Algebra 1.
D. Connect physical, verbal and symbolic representations of integers, rational numbers and irrational numbers.	SE/TE: This is covered extensively in Prentice Hall Algebra 1.
E. Compare, order and determine equivalent forms of real numbers.	SE/TE: This is covered extensively in Prentice Hall Algebra 1.
F. Explain the effects of operations on the magnitude of quantities.	SE/TE: This is covered extensively in Prentice Hall Algebra 1.
G. Estimate, compute and solve problems involving real numbers, including ratio, proportion and percent, and explain solutions.	SE/TE: This is covered extensively in Prentice Hall Algebra 1.
H. Find the square root of perfect squares, and approximate the square root of non-perfect squares.	SE/TE: This is covered extensively in Prentice Hall Algebra 1.
I. Estimate, compute and solve problems involving scientific notation, square roots and numbers with integer exponents.	SE/TE: This is covered extensively in Prentice Hall Algebra 1.
Measurement	
A. Solve increasingly complex non-routine measurement problems and check for reasonableness of results.	SE/TE: 261, 262, 384, 386, 387, 408, 409, 410, 431, 447, 459, 463, 464, 685, 748
B. Use formulas to find surface area and volume for specified three-dimensional objects accurate to a specified level of precision.	SE/TE: 607, 610, 611, 618, 619, 624-626, 633-634, 638-639, 640, 654, 655, 765
C. Apply indirect measurement techniques, tools and formulas, as appropriate, to find perimeter, circumference and area of circles, triangles, quadrilaterals and composite shapes, and to find volume of prisms, cylinders, and pyramids.	SE/TE: 261, 262, 384, 386, 387, 408, 409, 410, 431, 447, 459, 463, 464, 685, 748
D. Use proportional reasoning and apply indirect measurement techniques, including right triangle trigonometry and properties of similar triangles, to solve problems involving measurements and rates.	SE/TE: 261, 262, 384, 386, 387, 397-400, 407, 408, 409, 410, 416, 417-419, 431, 447, 459, 463, 464, 466-467, 685, 748, 764

Prentice Hall Mathematics, Geometry © 2009
Correlated to:
Ohio 8-10 Benchmarks and Grade 10 Grade Level Indicators

OHIO BENCHMARKS AND GRADE LEVEL INDICATORS	Prentice Hall Mathematics, Geometry © 2009
E. Estimate and compute various attributes, including length, angle measure, area, surface area and volume, to a specified level of precision.	SE/TE: 31-33, 36-39, 46, 130, 206, 330, 331, 416, 417-419, 425-426, 546, 569, 591, 680, 689, 706, 764, 765
F. Write and solve real-world, multi-step problems involving money, elapsed time and temperature, and verify reasonableness of solutions.	SE/TE: 7, 98, 284, 306, 336, 377, 447, 448, 453, 642, 704
Geometry and Spatial Sense	
A. Formally define geometric figures.	SE/TE: 157, 191, 306, 357, 566, 591, 608, 610, 617, 619
B. Describe and apply the properties of similar and congruent figures; and justify conjectures involving similarity and congruence.	SE/TE: 31, 44, 72, 198-200, 249, 272, 320, 373-375, 380, 391-393, 397, 408, 424, 432, 553-555
C. Recognize and apply angle relationships in situations involving intersecting lines, perpendicular lines and parallel lines.	SE/TE: 46, 47, 73, 266-267, 400, 507
D. Use coordinate geometry to represent and examine the properties of geometric figures.	SE/TE: 8, 20, 26, 67, 84, 113-114, 202, 239, 263, 269, 307, 326, 348-349, 394, 452, 479, 500-504, 508, 512, 703-704
E. Draw and construct representations of two- and three-dimensional geometric objects using a variety of tools, such as straightedge, compass and technology.	SE/TE: 10, 14, 37, 40, 43-47, 48-50, 73, 150, 182-183, 192, 204, 303, 315, 320, 368, 416, 477, 518-519, 532-533, 539
F. Represent and model transformations in a coordinate plane and describe the results.	SE/TE: 470-472, 477-479, 483-485, 490-491, 498-499, 503-507, 515-516, 523, 525, 528-529, 532-533, 539
G. Prove or disprove conjectures and solve problems involving two- and three-dimensional objects represented within a coordinate system.	SE/TE: 31, 44, 72, 198-200, 249, 272, 320, 373-375, 380, 391-393, 397, 408, 424, 432, 553-555
H. Establish the validity of conjectures about geometric objects, their properties and relationships by counter-example, inductive and deductive reasoning, and critiquing arguments made by others.	SE/TE: 5, 6, 27, 49, 69, 71, 185, 204, 220, 227, 258, 259, 269, 272, 320, 397, 424, 432, 438, 442, 477, 519, 645, 667-669
J. Use right triangle trigonometric relationships to determine lengths and angle measures.	SE/TE: 148, 229, 235-237, 391-393, 419, 425-426, 429, 438, 439, 440, 444, 446, 462, 565, 764, 769
Patterns, Functions and Algebra	
A. Generalize and explain patterns and sequences in order to find the next term and the nth term.	SE/TE: 4, 12, 514, 584-585, 609, 631, 656, 678, 742
B. Identify and classify functions as linear or nonlinear, and contrast their properties using tables, graphs or equations.	SE/TE: 166-167, 172-173, 187, 248, 563, 742, 763, 764, 765

Prentice Hall Mathematics, Geometry © 2009
Correlated to:
Ohio 8-10 Benchmarks and Grade 10 Grade Level Indicators

OHIO BENCHMARKS AND GRADE LEVEL INDICATORS	Prentice Hall Mathematics, Geometry © 2009
C. Translate information from one representation (words, table, graph or equation) to another representation of a relation or function.	SE/TE: 166-167, 172-173, 187, 248, 563, 742, 763, 764, 765
D. Use algebraic representations, such as tables, graphs, expressions, functions and inequalities, to model and solve problem situations.	SE/TE: 164-168, 172-173, 174-175, 176-177, 187, 191, 248, 288, 289-290, 291-292, 299, 563, 742, 754, 763, 764, 765
E. Analyze and compare functions and their graphs using attributes, such as rates of change, intercepts and zeros.	SE/TE: 164-168, 172-173, 174-175, 176-177, 187, 191, 248, 288, 289-290, 291-292, 299, 563, 742, 754, 763, 764, 765
F. Solve and graph linear equations and inequalities.	SE/TE: 166-167, 172-173, 175-176, 191, 234, 758, 760, 765
G. Solve quadratic equations with real roots by graphing, formula and factoring.	SE/TE: 354-355, 372
H. Solve systems of linear equations involving two variables graphically and symbolically.	SE/TE: 31, 129, 234, 296, 334, 399, 471, 760
I. Model and solve problem situations involving direct and inverse variation.	SE/TE: This is covered extensively in Prentice Hall Algebra 1.
J. Describe and interpret rates of change from graphical and numerical data.	SE/TE: 52-54, 58, 60, 73, 164-168, 174-175, 176-177, 191, 195, 226, 260-261, 297, 421, 440, 446, 695-696, 765
Data Analysis and Probability	
A. Create, interpret and use graphical displays and statistical measures to describe data; e.g., box-and-whisker plots, histograms, scatterplots, measures of center and variability.	SE/TE: 271, 274, 275, 298, 392, 409, 566, 714, 750, 752
B. Evaluate different graphical representations of the same data to determine which is the most appropriate representation for an identified purpose.	SE/TE: 76-77, 163, 191, 254-255, 362-363, 412-413, 567, 594-595, 695-696, 709, 714-715
C. Compare the characteristics of the mean, median and mode for a given set of data, and explain which measure of center best represents the data.	SE/TE: 271, 274, 275, 298, 392, 409, 566, 714, 750, 752
D. Find, use and interpret measures of center and spread, such as mean and quartiles, and use those measures to compare and draw conclusions about sets of data.	SE/TE: 39, 80, 117, 271, 274, 275, 298, 392, 409, 566, 714, 750, 752
E. Evaluate the validity of claims and predictions that are based on data by examining the appropriateness of the data collection and analysis.	SE/TE: 76-77, 248, 254-255, 320, 362-363, 368-369, 379, 412-413, 582-584, 594, 595, 714-715
F. Construct convincing arguments based on analysis of data and interpretation of graphs.	SE/TE: 76-77, 200, 207, 214-215, 248, 254-255, 289, 320, 362-363, 368-369, 379, 412-413, 582-584, 594, 595, 671, 688, 714-715
G. Describe sampling methods and analyze the effects of method chosen on how well the resulting sample represents the population.	SE/TE: 76-77, 248, 254-255, 320, 362-363, 368-369, 379, 412-413, 582-584, 594, 595, 714-715

Prentice Hall Mathematics, Geometry © 2009
Correlated to:
Ohio 8-10 Benchmarks and Grade 10 Grade Level Indicators

OHIO BENCHMARKS AND GRADE LEVEL INDICATORS	Prentice Hall Mathematics, Geometry © 2009
H. Use counting techniques, such as permutations and combinations, to determine the total number of options and possible outcomes.	SE/TE: 22, 84, 162, 218, 254, 255, 294, 326, 459, 538, 582, 583, 584, 591, 592, 604, 762
I. Design an experiment to test a theoretical probability, and record and explain results.	SE/TE: 22, 84, 162, 218, 254, 255, 294, 326, 459, 538, 582, 583, 584, 591, 592, 604, 762
J. Compute probabilities of compound events, independent events, and simple dependent events.	SE/TE: 22, 84, 162, 218, 254, 255, 294, 326, 459, 538, 582, 583, 584, 591, 592, 604, 762
K. Make predictions based on theoretical probabilities and experimental results.	SE/TE: 22, 84, 162, 218, 254, 255, 294, 326, 459, 538, 582, 583, 584, 591, 592, 604, 762
Mathematical Processes	
A. Formulate a problem or mathematical model in response to a specific need or situation, determine information required to solve the problem, choose method for obtaining this information, and set limits for acceptable solution.	SE/TE: 320, 368, 379, 582-584
B. Apply mathematical knowledge and skills routinely in other content areas and practical situations.	SE/TE: 30, 130, 166-167, 168, 172-173, 175, 191, 234, 288-292, 299, 366-368, 373-376, 390, 504, 524, 574, 607, 758, 759, 760, 765
C. Recognize and use connections between equivalent representations and related procedures for a mathematical concept; e.g., zero of a function and the x-intercept of the graph of the function, apply proportional thinking when measuring, describing functions, and comparing probabilities.	SE/TE: 18, 22, 84, 162, 166-167, 218, 248, 254-255, 294, 326, 459, 538, 582-584, 591, 592, 604, 762
D. Apply reasoning processes and skills to construct logical verifications or counter-examples to test conjectures and to justify and defend algorithms and solutions.	SE/TE: 4-7, 28, 61, 94-96, 98, 103-105, 108, 118, 122-123, 139, 151-152, 159, 217-218, 281-283, 298, 436, 650, 744
E. Use a variety of mathematical representations flexibly and appropriately to organize, record and communicate mathematical ideas.	SE/TE: 30, 130, 166-167, 168, 172-173, 175, 191, 234, 288-292, 299, 366-368, 373-376, 390, 504, 524, 574, 607, 758, 759, 760, 765
F. Use precise mathematical language and notations to represent problem situations and mathematical ideas.	SE/TE: 30, 130, 166-167, 168, 172-173, 175, 191, 234, 288-292, 299, 366-368, 373-376, 390, 504, 524, 574, 607, 758, 759, 760, 765
G. Write clearly and coherently about mathematical thinking and ideas.	SE/TE: 30, 130, 166-167, 168, 172-173, 175, 191, 234, 288-292, 299, 366-368, 373-376, 390, 504, 524, 574, 607, 758, 759, 760, 765
H. Locate and interpret mathematical information accurately, and communicate ideas, processes and solutions in a complete and easily understood manner.	SE/TE: 30, 130, 166-167, 168, 172-173, 175, 191, 234, 288-292, 299, 366-368, 373-376, 390, 504, 524, 574, 607, 758, 759, 760, 765
Grade Ten	
Number, Number Sense and Operations Standard	
Number and Number Systems	

Prentice Hall Mathematics, Geometry © 2009
Correlated to:
Ohio 8-10 Benchmarks and Grade 10 Grade Level Indicators

OHIO BENCHMARKS AND GRADE LEVEL INDICATORS	Prentice Hall Mathematics, Geometry © 2009
1. Connect physical, verbal and symbolic representations of irrational numbers; e.g., construct as a hypotenuse or on a number line.	SE/TE: 31-34, 129, 235, 236-237, 251, 334, 377, 390, 417, 425, 471, 486, 763
Meaning of Operations	
2. Explain the meaning of the nth root.	SE/TE: This is covered extensively in Prentice Hall Algebra 1 plus referenced in this text.640, 753, 768
Computation and Estimation	
3. Use factorial notation and computations to represent and solve problem situations involving arrangements.	SE/TE: 30, 41, 66, 96, 166-168, 172-175, 206, 234, 288-292, 299, 366-368, 373-376, 498-499, 504, 549, 557, 574, 581, 607, 612, 627, 706, 747, 758-760, 765
4. Approximate the nth root of a given number greater than zero between consecutive integers when n is an integer; e.g., the 4th root of 50 is between 2 and 3.	SE/TE: This is covered extensively in Prentice Hall Algebra 1 plus referenced in this text.640, 753, 768
Measurement Standard	
Use Measurement Techniques and Tools	
1. Explain how a small error in measurement may lead to a large error in calculated results.	SE/TE: 8, 84, 107, 133, 163, 169, 211, 214, 224, 225, 269, 285, 293, 310, 317, 370, 429, 441, 456, 501, 556, 675, 692
2. Calculate relative error.	SE/TE: 8, 84, 107, 133, 163, 169, 211, 214, 224, 225, 269, 285, 293, 310, 317, 370, 429, 441, 456, 501, 556, 675, 692
3. Explain the difference between absolute error and relative error in measurement.	SE/TE: 8, 84, 107, 133, 163, 169, 211, 214, 224, 225, 269, 285, 293, 310, 317, 370, 429, 441, 456, 501, 556, 675, 692
4. Give examples of how the same absolute error can be problematic in one situation but not in another; e.g., compare "accurate to the nearest foot" when measuring the height of a person versus when measuring the height of a mountain.	SE/TE: 8, 84, 107, 133, 163, 169, 211, 214, 224, 225, 269, 285, 293, 310, 317, 370, 429, 441, 456, 501, 556, 675, 692
5. Determine the measures of central and inscribed angles and their associated major and minor arcs.	SE/TE: 566-567, 591, 678-681, 708, 710
Geometry and Spatial Sense Standard	
Characteristics and Properties	
1. Formally define and explain key aspects of geometric figures, including:	
a. interior and exterior angles of polygons;	SE/TE: 127-129, 135, 149, 156, 159-160, 189, 190, 191, 290
b. segments related to triangles (median, altitude, midsegment);	SE/TE: 258-259, 260-261, 274-275, 297-298, 348, 359
c. points of concurrency related to triangles (centroid, incenter, orthocenter, circumcenter);	SE/TE: 273, 274, 275, 298
d. circles (radius, diameter, chord, circumference, major arc, minor arc, sector, segment, inscribed angle).	SE/TE: 273, 298, 546, 566, 567-569, 576, 577, 589, 591, 665, 670-673, 686, 689-690, 695-697, 707-708, 765

Prentice Hall Mathematics, Geometry © 2009
Correlated to:
Ohio 8-10 Benchmarks and Grade 10 Grade Level Indicators

OHIO BENCHMARKS AND GRADE LEVEL INDICATORS	Prentice Hall Mathematics, Geometry © 2009
Spatial Relationships	
2. Recognize and explain the necessity for certain terms to remain undefined, such as point, line and plane.	SE/TE: 17, 18-19, 20, 24-25, 72, 166-167, 266, 297, 605, 606, 662-665, 701-702, 709-710
3. Make, test and establish the validity of conjectures about geometric properties and relationships using counterexample, inductive and deductive reasoning, and paragraph or two-column proof, including:	
a. prove the Pythagorean Theorem;	SE/TE: This is covered extensively in Prentice Hall Algebra 1 plus referenced in this text.422, 545
b. prove theorems involving triangle similarity and congruence;	SE/TE: 111, 112, 113, 302-303, 382-385, 392-393, 408
c. prove theorems involving properties of lines, angles, triangles and quadrilaterals;	SE/TE: 110-112, 141, 147-150, 154, 214-215, 250, 266, 291, 321-322, 400, 409, 672-673, 680-681, 687
d. test a conjecture using basic constructions made with a compass and straightedge or technology.	SE/TE: 5, 44, 48, 49, 50, 71, 73, 182-183, 210, 227, 303, 315, 477, 669
4. Construct right triangles, equilateral triangles, parallelograms, trapezoids, rectangles, rhombuses, squares and kites, using compass and straightedge or dynamic geometry software.	SE/TE: 43-45, 46, 47, 73, 182-183, 303, 387, 477, 539, 549, 570, 575, 669, 678
5. Construct congruent figures and similar figures using tools, such as compass, straightedge, and protractor or dynamic geometry software.	SE/TE: 43-45, 46, 47, 73, 182-183, 303, 387, 477, 539, 549, 570, 575, 669, 678
Transformation and Symmetry	
6. Identify the reflection and rotation symmetries of two- and three-dimensional figures.	SE/TE: 194-195, 385, 477-479, 483-501, 503, 506-507, 508-509, 523, 524-525
7. Perform reflections and rotations using compass and straightedge constructions and dynamic geometry software.	SE/TE: 43-47, 73, 182-183, 194-195, 303, 385, 387, 477-479, 483-501, 503, 506-509, 523-525, 539, 549, 570, 575, 669, 678
8. Derive coordinate rules for translations, reflections and rotations of geometric figures in the coordinate plane.	SE/TE: 194-195, 385, 477-479, 483-501, 503, 506-507, 508-509, 523, 524-525
9. Show and describe the results of combinations of translations, reflections and rotations (compositions); e.g., perform compositions and specify the result of a composition as the outcome of a single motion, when applicable.	SE/TE: 194-195, 385, 477-479, 483-501, 503, 506-507, 508-509, 523, 524-525
Visualization and Geometric Models	
10. Solve problems involving chords, radii and arcs within the same circle.	SE/TE: 564, 566, 567-569, 589, 591, 670-673, 686, 695-697, 707-708, 765
Patterns, Functions and Algebra Standard	
Use Patterns, Relations and Functions	

Prentice Hall Mathematics, Geometry © 2009
Correlated to:
Ohio 8-10 Benchmarks and Grade 10 Grade Level Indicators

OHIO BENCHMARKS AND GRADE LEVEL INDICATORS	Prentice Hall Mathematics, Geometry © 2009
1. Define function formally and with $f(x)$ notation.	SE/TE: 248, 471, 490-491, 640, 753, 757, 768
2. Describe and compare characteristics of the following families of functions: square root, cubic, absolute value and basic trigonometric functions; e.g., general shape, possible number of roots, domain and range.	SE/TE: 248, 471, 490-491, 640, 753, 757, 768
Use Algebraic Representations	
3. Solve equations and formulas for a specified variable; e.g., express the base of a triangle in terms of the area and height.	SE/TE: 60, 70-73, 109, 145, 287, 319, 405, 424, 489, 533-534, 540, 575-576, 619-620, 638-639, 655, 677, 764, 765
4. Use algebraic representations and functions to describe and generalize geometric properties and relationships.	SE/TE: 30, 130, 166-167, 168, 172-173, 175, 191, 234, 288-292, 299, 366-368, 373-376, 390, 504, 524, 574, 607, 758, 759, 760, 765
5. Solve simple linear and nonlinear equations and inequalities having square roots as coefficients and solutions.	SE/TE: 30, 166-167, 168, 172-173, 175, 191, 234, 372, 695-696, 709, 753, 758, 760, 765, 768
6. Solve equations and inequalities having rational expressions as coefficients and solutions.	SE/TE: 30, 166-167, 168, 172-173, 175, 191, 234, 288, 289-290, 291-292, 299, 372, 695-696, 709, 753, 758, 760, 765, 768
7. Solve systems of linear inequalities.	SE/TE: 234, 760
8. Graph the quadratic relationship that defines circles.	SE/TE: 354-355, 372, 566, 591
9. Recognize and explain that the slopes of parallel lines are equal and the slopes of perpendicular lines are negative reciprocals.	SE/TE: 174-175, 176-177, 191
10. Solve real-world problems that can be modeled using linear, quadratic, exponential or square root functions.	SE/TE: 137, 170, 174, 200, 314, 399, 536, 585, 649, 690, 699
Analyze Change	
11. Solve real-world problems that can be modeled, using systems of linear equations and inequalities.	SE/TE: 113, 128, 138, 143, 170, 174, 183, 200, 332, 333, 419, 436, 446, 448, 453, 456-457, 493
12. Describe the relationship between slope of a line through the origin and the tangent function of the angle created by the line and the positive x-axis.	SE/TE: 165, 166, 174-175, 176-177, 191, 432-434, 662-664, 694, 764, 765
Data Analysis and Probability Standard	
Data Collection	
1. Describe measures of center and the range verbally, graphically and algebraically.	SE/TE: 271, 274, 275, 298, 392, 409, 567, 750
2. Represent and analyze bivariate data using appropriate graphical displays (scatterplots, parallel box-and-whisker plots, histograms with more than one set of data, tables, charts, spreadsheets) with and without technology.	SE/TE: 18, 69, 163, 166-168, 170, 172-173, 187, 303, 416, 440, 499, 519, 563, 566, 696, 714, 751, 752, 764-765
3. Display bivariate data where at least one variable is categorical.	SE/TE: 18, 69, 163, 166-168, 170, 172-173, 187, 303, 416, 440, 499, 519, 563, 566, 696, 714, 751, 752, 764-765

Prentice Hall Mathematics, Geometry © 2009
Correlated to:
Ohio 8-10 Benchmarks and Grade 10 Grade Level Indicators

O H I O B E N C H M A R K S A N D G R A D E L E V E L I N D I C A T O R S	P r e n t i c e H a l l M a t h e m a t i c s , G e o m e t r y © 2 0 0 9
4. Identify outliers on a data display; e.g., use interquartile range to identify outliers on a box-and-whisker plot.	SE/TE: 18, 69, 163, 166-168, 170, 172-173, 187, 303, 416, 440, 499, 519, 563, 566, 696, 714, 751, 752, 764-765
Statistical Methods	
5. Provide examples and explain how a statistic may or may not be an attribute of the entire population; e.g., intentional or unintentional bias may be present.	SE/TE: 163, 191, 320, 368, 372, 379, 567, 582-584, 695-696, 709
6. Interpret the relationship between two variables using multiple graphical displays and statistical measures; e.g., scatterplots, parallel box-and-whisker plots, and measures of center and spread.	SE/TE: 163, 166-168, 170, 172-173, 187, 271, 274-275, 298, 392, 409, 416, 440, 499, 519, 563, 566-567, 696, 714, 750-752, 764-765
Probability	
7. Model problems dealing with uncertainty with area models (geometric probability).	SE/TE: 582-584, 591
8. Differentiate and explain the relationship between the probability of an event and the odds of an event, and compute one given the other.	SE/TE: 22, 84, 162, 164, 218, 254, 255, 294, 326, 459, 538, 582-584, 591-591, 702