

9 Algebra: Exploring Real Numbers



Chapter Pacing Guide

Please note that this pacing guide is based upon completing the entire text in 165 classes, approximately 50 minutes each. More time can be allotted for this chapter if you do not plan to teach the entire text.

<i>Day (Standard)</i>	<i>Day (Honors)</i>	<i>Lesson</i>	<i>Title</i>
1	1	*Chapter Project	Theme: Traffic Safety Proceed with Caution
2		9-1	Square Roots
3 & 4	2	*9-2A	<small>HANDS-ON LAB</small> Cooperative Learning Estimating Square Roots
		9-2	Estimating Square Roots
5	3	9-3	The Real Number System
6 & 7	4	*9-4A	<small>HANDS-ON LAB</small> Cooperative Learning The Pythagorean Theorem
		9-4	The Pythagorean Theorem
8	5	9-5A	<small>THINKING LAB</small> Problem Solving Draw a Diagram
9	6 & 7	9-5	Using the Pythagorean Theorem
		*9-5B	<small>HANDS-ON LAB</small> Cooperative Learning Graphing Irrational Numbers
10	8	9-6	Integration: Geometry Distance on the Coordinate Plane
11	9	9-7	Integration: Geometry Special Right Triangles
12	10	Review: Study Guide and Assessment	
13	11	Assessment: Chapter Test	

* *Optional*

Chapter Resources

<p>Meeting Individual Needs <i>Investigations for the Special Education Student</i>, Weather Report, pp. 19-20 <i>Spanish Study Guide and Assessment</i> <i>Study Guide and Practice Workbook</i></p>	<p>Technology <i>Electronic Teacher's Classroom Resources (ETCR)</i> www.glencoe.com/sec/math/mac/mathnet</p>
<p>Interactive Mathematics: Activities and Investigations Units 1 and 15</p>	<p>Applications <i>Family Letters and Activities</i>, pp. 69-70 <i>Spanish Family Letters and Activities</i>, pp. 69-70</p>



Chapter Project (pp. 380-381)



Teacher's Name _____ Dates _____
Grade _____ Class _____ M Tu W Th F

Objectives

- _____ Plot real numbers on a coordinate plane.
- _____ Find distance by using the Pythagorean Theorem.

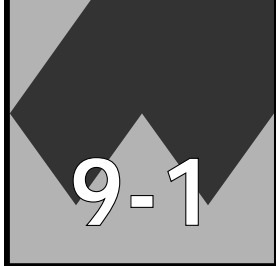
Theme: Traffic Safety

- _____ Chapter Project, *SE*, p. 381
- _____ Chapter 9 Notes, *TWE*, p. 380
- _____ Question of the Day, *TWE*, p. 380
- _____ ⇔ *Investigations and Projects Masters*, pp. 49-52

Homework Assignments

- _____ p. 388, Working on the Chapter Project, Exercise 25
- _____ p. 393, Working on the Chapter Project, Exercise 32
- _____ p. 413, Working on the Chapter Project, Exercise 21
- _____ p. 421, Completing the Chapter Project, Alternative Assessment

KEY SE = Student Edition TWE = Teacher's Wraparound Edition ⇔ = Other Program Components



Lesson Planning Guide (pp. 382-384)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

_____ Find square roots of perfect squares.

NCTM Standards: 1, 3, 6-10
Georgia Quality Core Curriculum: Grade 8: 1, 2, 32

1 FOCUS

- _____ 5-Minute Check, *TWE*, p. 382
- _____ ⇨ Transparency 9-1A
- _____ Motivating the Lesson, Problem Solving, *TWE*, p. 382

2 TEACH


- _____ ⇨ Transparency 9-1B
- _____ Reading Mathematics, *TWE*, p. 383
- _____ In-Class Examples, *TWE*, p. 383
- _____ ⇨ *Study Guide Masters*, p. 70
- _____ Reteaching the Lesson, *TWE*, p. 383
- _____ Error Analysis, *TWE*, p. 383
- _____ ⇨ *CD-ROM Program*, Resource Lesson 9-1
- _____ ⇨ *Interactive Mathematics Tools Software*

3 PRACTICE/APPLY

- _____ Check for Understanding, *SE*, p. 383

Homework Assignments (p. 384)

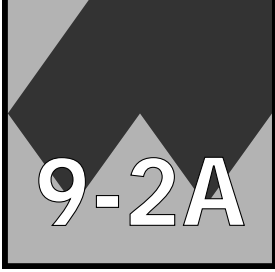
- _____ Core: 11-29 odd, 30-33
- _____ Enriched: 10-26 even, 27-33
- _____ Alternate Assignment: _____

- _____ Extra Practice, *SE*, p. 630
- _____ ⇨ *Practice Masters*, p. 70
- _____ ⇨ *Technology Masters*, Calculator Activity, p. 69
- _____ ⇨ *Diversity Masters*, p. 35
- _____ ⇨  *Georgia Parent and Student Study Guide Workbook*, p. 78

4 ASSESS

- _____ Closing Activity, Modeling, *TWE*, p. 384
- _____ Extending the Lesson, *TWE*, p. 384
- _____ ⇨ *Enrichment Masters*, p. 70

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Lesson Planning Guide (p. 385)



Teacher's Name _____ Dates _____
 Grade _____ Class _____ M Tu W Th F

Objectives

_____ Use models to estimate square roots.

NCTM Standards: 1, 2, 6-10
Georgia Quality Core Curriculum: Grade 8: 1, 2, 32

MANAGEMENT

- _____ Getting Started, *TWE*, p. 385
- _____ ⇨ *Hands-On Lab Masters*, p. 29: algebra tiles, p. 11: centimeter grid
- _____ ⇨ *Teacher's Guide for Overhead Manipulative Resources*, Lesson 9-2A
- _____ ⇨ *Overhead Manipulative Resources*: algebra tiles or base-ten blocks

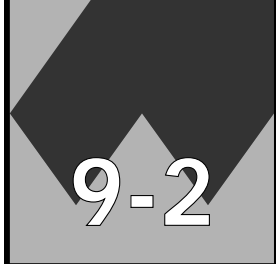
ASSESS

- _____ *TWE*, p. 385
- _____ ⇨ *Hands-On Lab Masters*, p. 57

Class Activity (p. 385)
_____ All: 1-5
_____ Alternate Assignment: _____

_____ Math Journal, *TWE*, p. 385

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Lesson Planning Guide (pp. 386-389)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

_____ Estimate square roots.

NCTM Standards: 1-3, 6-10
Georgia Quality Core Curriculum: Grade 8: 1, 2, 32

1 FOCUS

- _____ 5-Minute Check, *TWE*, p. 386
- _____ ⇨ Transparency 9-2A
- _____ Motivating the Lesson, Hands-On-Activity, *TWE*, p. 386
- _____ Multiple Learning Styles, Logical, *TWE*, p. 386

2 TEACH

- _____ ⇨ Transparency 9-2B
- _____ Thinking Algebraically, *TWE*, p. 387
- _____ In-Class Examples, *TWE*, p. 387
- _____ ⇨ *Study Guide Masters*, p. 71
- _____ Reteaching the Lesson, *TWE*, p. 387
- _____ ⇨ *CD-ROM Program*, Resource Lesson 9-2, Interactive Lesson 9-2

3 PRACTICE/APPLY

- _____ Check for Understanding, *SE*, p. 387

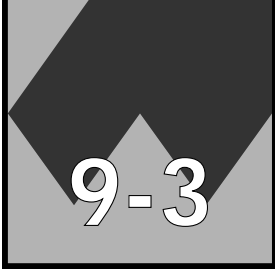
Homework Assignments (pp. 387-388)	
_____ Core: 9-23 odd, 26-29	_____ Enriched: 8-22 even, 23, 24, 26-29
_____ Optional: 25 (Working on the Chapter Project)	
_____ Alternate Assignment: _____	

- _____ Extra Practice, *SE*, p. 631
- _____ ⇨ *Practice Masters*, p. 71
- _____ ⇨ *Georgia Parent and Student Study Guide Workbook*, p. 79

4 ASSESS

- _____ Let the Games Begin, *SE*, p. 389
- _____ Closing Activity, Speaking, *TWE*, p. 389
- _____ ⇨ *Assessment and Evaluation Masters*, Quiz A, p. 239
- _____ Extending the Lesson, *TWE*, p. 389
- _____ ⇨ *Enrichment Masters*, p. 71

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Lesson Planning Guide (pp. 390-395)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

_____ Identify and classify numbers in the real number system.

NCTM Standards:

1, 2, 6-10

Georgia Quality Core Curriculum:

Grade 8: 1, 38

1 FOCUS

- _____ 5-Minute Check, *TWE*, p. 390
- _____ ⇨ Transparency 9-3A
- _____ Motivating the Lesson, Communication, *TWE*, p. 390
- _____ Cross-Curriculum Cue, *TWE*, p. 390

2 TEACH

- _____ ⇨ Transparency 9-3B
- _____ Reading Mathematics, *TWE*, p. 391
- _____ In-Class Examples, *TWE*, pp. 391, 392
- _____ ⇨ *Study Guide Masters*, p. 72
- _____ Reteaching the Lesson, *TWE*, p. 392
- _____ Error Analysis, *TWE*, p. 392
- _____ ⇨ *CD-ROM Program*, Resource Lesson 9-3

3 PRACTICE/APPLY

- _____ Check for Understanding, *SE*, p. 392

Homework Assignments (pp. 393-394)

- _____ Core: 11-31 odd, 33-37 _____ Enriched: 12-30 even, 31, 33-37
- _____ Optional: 32 (Working on the Chapter Project)
- _____ Alternate Assignment: _____

- _____ Extra Practice, *SE*, p. 631
- _____ ⇨ *Practice Masters*, p. 72
- _____ School to Career Activity, *SE*, p. 395
- _____ ⇨ *Georgia Parent and Student Study Guide Workbook*, p. 80

4 ASSESS

- _____ Closing Activity, Writing, *TWE*, p. 394
- _____ Extending the Lesson, *TWE*, p. 394
- _____ ⇨ *Enrichment Masters*, p. 72
- _____ Mid-Chapter Self Test, *SE*, p. 394

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Lesson Planning Guide (pp. 396-397)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

_____ Explore the relationships in a right triangle.

NCTM Standards: 1-4, 6-10
Georgia Quality Core Curriculum: Grade 8: 1, 2, 16, 28

MANAGEMENT

_____ Getting Started, *TWE*, p. 396

_____ ⇨ *Hands-On Lab Masters*, p. 12: square dot paper

_____ ⇨ *Teacher's Guide for Overhead Manipulative Resources*, Lesson 9-4A

_____ ⇨ *Overhead Manipulative Resources*: geoboards, geobands, rectangular dot paper transparency

ASSESS

_____ *TWE*, p. 397

_____ ⇨ *Hands-On Lab Masters*, p. 58

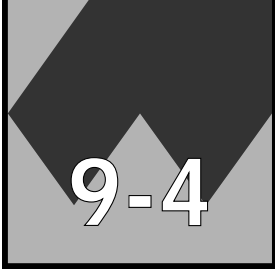
Class Activity (pp. 396-397)

_____ All: 1-7

_____ Alternate Assignment: _____

_____ Math Journal, *TWE*, p. 397

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Lesson Planning Guide (pp. 398-401)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

_____ Use the Pythagorean Theorem.

NCTM Standards: 1-4, 6-10
Georgia Quality Core Curriculum: Grade 8: 1, 2, 16, 28, 40

1 FOCUS

- _____ 5-Minute Check, *TWE*, p. 398
- _____ ⇨ Transparency 9-4A
- _____ Motivating the Lesson, Hands-On-Activity, *TWE*, p. 399


2 TEACH

- _____ ⇨ Transparency 9-4B
- _____ Reading Mathematics, *TWE*, p. 399
- _____ In-Class Examples, *TWE*, p. 399
- _____ ⇨ *Study Guide Masters*, p. 73
- _____ Reteaching the Lesson, *TWE*, p. 399
- _____ Error Analysis, *TWE*, p. 399
- _____ ⇨ *CD-ROM Program*, Resource Lesson 9-4, Interactive Lesson 9-4

3 PRACTICE/APPLY

- _____ Check for Understanding, *SE*, pp. 399-400

Homework Assignments (pp. 400-401)	
_____ Core: 11-31 odd, 33-37	_____ Enriched: 12-28 even, 30-37
_____ Alternate Assignment: _____	

- _____ Extra Practice, *SE*, p. 631
- _____ ⇨ *Practice Masters*, p. 73
- _____ ⇨  *Georgia Parent and Student Study Guide Workbook*, p. 81

4 ASSESS

- _____ Closing Activity, Writing, *TWE*, p. 401
- _____ ⇨ *Assessment and Evaluation Masters*, Mid-Chapter Test, p. 238
- _____ ⇨ *Assessment and Evaluation Masters*, Quiz B, p. 239
- _____ Extending the Lesson, *TWE*, p. 401
- _____ ⇨ *Enrichment Masters*, p. 73

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Lesson Planning Guide (pp. 402-403)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

_____ Solve problems by drawing a diagram.

1 FOCUS

_____ Getting Started, *TWE*, p. 402

2 TEACH

_____ In-Class Example, *TWE*, p. 403

_____ Reteaching the Lesson, *TWE*, p. 402

3 PRACTICE/APPLY

_____ Check for Understanding, *TWE*, p. 403

NCTM Standards: 1, 2, 6-10
Georgia Quality Core Curriculum: Grade 8: 1, 2, 40, 45

Homework Assignments (p. 403)

_____ All: 4-13

_____ Alternate Assignment: _____

_____ Extra Practice, *SE*, p. 632

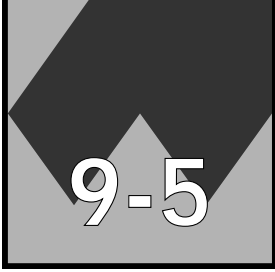
_____ Mixed Problem Solving, *SE*, pp. 645-646

4 ASSESS

_____ Closing Activity, Writing, *TWE*, p. 403

_____ Extending the Lesson, *TWE*, p. 403

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Lesson Planning Guide (pp. 404-407)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

_____ Solve problems using the Pythagorean Theorem.

NCTM Standards: 1-4, 6-9
Georgia Quality Core Curriculum: Grade 8: 1, 2, 16, 28, 40

1 FOCUS

- _____ 5-Minute Check, *TWE*, p. 404
- _____ ⇨ Transparency 9-5A
- _____ Motivating the Lesson, Communication, *TWE*, p. 404
- _____ Multiple Learning Styles, Auditory/Musical, *TWE*, p. 404

2 TEACH

- _____ ⇨ Transparency 9-5B
- _____ Using Connections, *TWE*, p. 405
- _____ In-Class Examples, *TWE*, p. 405
- _____ ⇨ *Study Guide Masters*, p. 74
- _____ Reteaching the Lesson, *TWE*, p. 406
- _____ ⇨ *CD-ROM Program*, Resource Lesson 9-5

3 PRACTICE/APPLY

- _____ Check for Understanding, *SE*, p. 406

Homework Assignments (pp. 406-407)	
_____ Core: 5-13 odd, 14-16	_____ Enriched: 6, 8, 9-16
_____ Alternate Assignment: _____	

- _____ Extra Practice, *SE*, p. 632
- _____ ⇨ *Practice Masters*, p. 74
- _____ ⇨ *Technology Masters*, Spreadsheet Activity, p. 70
- _____ Family Activity, *SE*, p. 407
- _____ ⇨ *Georgia Parent and Student Study Guide Workbook*, p. 82

4 ASSESS

- _____ Closing Activity, Writing, *TWE*, p. 407
- _____ Extending the Lesson, *TWE*, p. 407
- _____ ⇨ *Enrichment Masters*, p. 74

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Lesson Planning Guide (pp. 408-409)



Teacher's Name _____ Dates _____
 Grade _____ Class _____ M Tu W Th F

Objectives

_____ Use the Pythagorean Theorem to graph irrational numbers on a number line.

NCTM Standards: 1-4, 6-10
Georgia Quality Core Curriculum: Grade 8: 1, 2, 38

MANAGEMENT

- _____ Getting Started, *TWE*, p. 408
- _____ ⇨ *Hands-On Lab Masters*, p. 15: number lines
- _____ ⇨ *Teacher's Guide for Overhead Manipulative Resources*, Lesson 9-5B
- _____ ⇨ *Overhead Manipulative Resources*: number lines

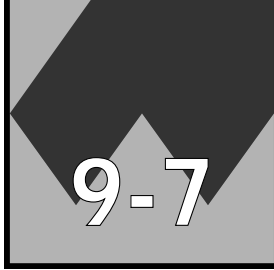
ASSESS

- _____ *TWE*, p. 409
- _____ ⇨ *Hands-On Lab Masters*, p. 59

Class Activity (pp. 408-409)
_____ All: 1-9
_____ Alternate Assignment: _____

_____ Math Journal, *TWE*, p. 409

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Lesson Planning Guide (pp. 414-417)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

- _____ Find missing measures in 30°-60° right triangles and 45°-45° right triangles.

NCTM Standards: 1-4, 6-10
Georgia Quality Core Curriculum: Grade 8: 1, 2, 3, 23, 27, 28

1 FOCUS

- _____ 5-Minute Check, *TWE*, p. 414
- _____ ⇨ Transparency 9-7A
- _____ Motivating the Lesson, Problem Solving, *TWE*, p. 414


2 TEACH

- _____ ⇨ Transparency 9-7B
- _____ Using the Mini-Lab, *TWE*, p. 415
- _____ ⇨ *Teacher's Guide for Overhead Manipulative Resources*, Mini-Lab for Lesson 9-7
- _____ In-Class Examples, *TWE*, p. 415
- _____ ⇨ *Study Guide Masters*, p. 76
- _____ Reteaching the Lesson, *TWE*, p. 416
- _____ ⇨ *CD-ROM Program*, Resource Lesson 9-7

3 PRACTICE/APPLY

- _____ Check for Understanding, *SE*, p. 416

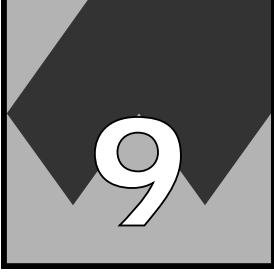
Homework Assignments (pp. 416-417)	
_____ Core: 7-17 odd, 18-20	_____ Enriched: 8-12 even, 14-20
_____ Alternate Assignment: _____	

- _____ Extra Practice, *SE*, p. 633
- _____ ⇨ *Practice Masters*, p. 76
- _____ ⇨ *Hands-On Lab Masters*, p. 76
- _____ ⇨ *Classroom Games*, pp. 25-29
- _____ ⇨  *Georgia Parent and Student Study Guide Workbook*, p. 84

4 ASSESS

- _____ Closing Activity, Speaking, *TWE*, p. 417
- _____ ⇨ *Assessment and Evaluation Masters*, Quiz D, p. 240
- _____ Extending the Lesson, *TWE*, p. 417
- _____ ⇨ *Enrichment Masters*, p. 76

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Review and Assessment (pp. 418-425)



Teacher's Name _____ Dates _____

Grade _____ Class _____
Review M Tu W Th F
Testing M Tu W Th F

- _____ Study Guide and Assessment, *SE*, pp. 418-421
- _____ Standardized Test Practice, *SE*, pp. 422-423
- _____ Chapter Test, *SE*, p. 655



⇔ **Assessment and Evaluation Masters (pp. 225-243)**

Multiple-Choice Tests

- _____ Form 1A, 1B, or 1C, pp. 225-230
- _____ Standardized Test Practice, pp. 241-242

Free-Response Tests

- _____ Form 2A, 2B, or 2C, pp. 231-236
- _____ Performance Assessment, p. 237
- _____ Cumulative Review, p. 243

- _____ ⇔ *MindJogger Videoquizzes*, Chapter 9
- _____ ⇔ *Test and Review Software*
- _____ ⇔ *CD-ROM Assessment Game*
- _____ ⇔ *State Test Preparation CD-ROM*
- _____ ⇔  *Georgia Parent and Student Study Guide Workbook*, p. 85
- _____ ⇔  *Georgia Stanford 9 Practice and Sample Test Workbook*

Interdisciplinary Investigation, SE, pp. 424-425

- _____ ⇔ *Interdisciplinary Investigation, TWE*, pp. 424-425
- _____ ⇔ *Investigations and Projects Masters*, pp. 9-12

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