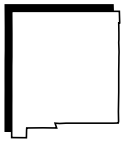
9 Algebra: Exploring Real Numbers



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.

Day (Standard)	*Day (Honors)*	*Lesson*	*Title*
1	1	*Chapter Project	Theme: Traffic Safety Proceed with Caution
2		9-1	Square Roots
3 & 4		*9-2A	HANDS-ON LAB Cooperative Learning Estimating Square Roots
	2	9-2	Estimating Square Roots
5	3	9-3	The Real Number System
6 & 7		*9-4A	HANDS-ON LAB Cooperative Learning The Pythagorean Theorem
	4	9-4	The Pythagorean Theorem
8	5	9-5A	THINKING LAB Problem Solving Draw a Diagram
9	6 & 7	9-5	Using the Pythagorean Theorem
		*9-5B	HANDS-ON LAB 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

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

9

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

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9-1

Lesson Planning Guide (pp. 382-384)

Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

NCTM Standards:
1-7, 12

New Mexico Mathematics Performance Standards Grades 5-8:
2-A-2, 7-F-2, 9-D-1

Objectives

_____ Find square roots of perfect squares.

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

4 ASSESS

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

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9-2A

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:
1-5, 7, 8

New Mexico Mathematics Performance Standards Grades 5-8:
2-B-1

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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9-2

Lesson Planning Guide (pp. 386-389)

Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

NCTM Standards: 1-5, 7, 8, 12

_____ Estimate square roots.

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

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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9-3

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:
1-4, 6, 7, 9

New Mexico Mathematics Performance Standards Grades 5-8:
7-F-2

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

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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9-4A

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:
1-5, 7, 8, 12, 13

New Mexico Mathematics Performance Standards Grades 5-8:
9-D-2

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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9-4

Lesson Planning Guide (pp. 398-401)

Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

NCTM Standards:
1-5, 7-9, 12, 13

New Mexico Mathematics Performance Standards Grades 5-8:
9-D-2

Objectives

_____ Use the Pythagorean Theorem.

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

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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9-5A

Lesson Planning Guide (pp. 402-403)

Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

_____ Solve problems by drawing a diagram.

NCTM Standards:
1-5, 7, 8

New Mexico Mathematics Performance Standards Grades 5-8:
1-A-1, 7-B-1

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

***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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9-5

Lesson Planning Guide (pp. 404-407)

Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

NCTM Standards:
1-5, 7, 8, 12, 13

New Mexico Mathematics Performance Standards Grades 5-8:
9-D-2, 13-B-1

Objectives

_____ Solve problems using the Pythagorean Theorem.

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

4 ASSESS

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

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9-5B

Lesson Planning Guide (pp. 408-409)

Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

NCTM Standards:
1-5, 7, 12, 13

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

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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9-6

Lesson Planning Guide (pp. 410-413)

Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

NCTM Standards: 1-5, 7, 12, 13

_____ Find the distance between points in the coordinate plane.

1 FOCUS

_____ 5-Minute Check, *TWE,* p. 410
_____ ➪ Transparency 9-6A
_____ Motivating the Lesson, Hands-On-Activity, *TWE,* p. 411
_____ Multiple Learning Styles, Kinesthetic, *TWE,* p. 410

2 TEACH

_____ ➪ Transparency 9-6B
_____ Using the Mini-Lab, *TWE,* p. 411
_____ ➪ *Teacher's Guide for Overhead Manipulative Resources,* Mini-Lab for Lesson 9-6
_____ In-Class Examples, *TWE,* p. 411
_____ ➪ *Study Guide Masters,* p. 75
_____ Reteaching the Lesson, *TWE,* p. 412
_____ Error Analysis, *TWE,* p. 412
_____ ➪ *CD-ROM Program,* Resource Lesson 9-6

3 PRACTICE/APPLY

_____ Check for Understanding, *SE,* pp. 411-412

***Homework Assignments* (pp. 412-413)**

_____ Core: 9-19 odd, 22-25 _____ Enriched: 8-16 even, 18-20, 22-25
_____ Optional: 21 (Working on the Chapter Project)
_____ Alternate Assignment: _____

_____ Extra Practice, *SE,* p. 632
_____ ➪ *Practice Masters,* p. 75
_____ ➪ *School to Career Masters,* p. 35

4 ASSESS

_____ Closing Activity, Modeling, *TWE,* p. 413
_____ ➪ *Assessment and Evaluation Masters,* Quiz C, p. 240
_____ Extending the Lesson, *TWE,* p. 413
_____ ➪ *Enrichment Masters,* p. 75

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9-7

Lesson Planning Guide (pp. 414-417)

Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

NCTM Standards:
1-5, 7-9, 12, 13

New Mexico Mathematics Performance Standards Grades 5-8:
9-D-2

Objectives

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

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

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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9

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*

Interdisciplinary Investigation, SE, **pp. 424-425**

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

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