

Table of Contents

About the Authors	ix
Introduction	1
The Purpose of This Book.	3
The Parts of This Book	4
A Final Thought.	4
 PART 1	
Mathematics Unit Planning and Design Elements	5
 1 Planning for Student Learning of Mathematics in High School	9
Guaranteed and Viable Curriculum	9
Mathematics Unit Planner	10
Mathematics Concepts and Skills in High School	10
Connections Between Mathematics Content and Unit Planning	13
 2 Unit Planning as a Collaborative Mathematics Team	15
Mathematics Unit Planning as a Team.	15
Essential Learning Standards	18
Unit Calendar.	23
Prior Knowledge	23
Vocabulary and Notations.	23
Resources and Activities	26
Tools and Technology	26
Reflection and Notes	29
 PART 2	
Transformations on the Coordinate Plane Unit Examples for Algebra 1, Geometry, and Algebra 2	33

3	Algebra 1 Unit: Graphs of Quadratic Functions	39
	Essential Learning Standards	40
	Unit Calendar.	45
	Prior Knowledge	48
	Vocabulary and Notations.	48
	Resources and Activities	53
	Tools and Technology	53
	Reflection and Notes	57
	Algebra 1 Graphs of Quadratic Functions Unit Planner.	57
	Conclusion	60
4	Geometry Unit: Transformations and Congruence	61
	Essential Learning Standards	62
	Unit Calendar.	69
	Prior Knowledge	69
	Vocabulary and Notations.	73
	Resources and Activities	73
	Tools and Technology	76
	Reflection and Notes	76
	Geometry Transformations and Congruence Unit Planner	81
	Conclusion	81
5	Algebra 2 Unit: Graphs of Trigonometric Functions	85
	Essential Learning Standards	86
	Unit Calendar.	95
	Prior Knowledge	95
	Vocabulary and Notations.	102
	Resources and Activities	106
	Tools and Technology	106
	Reflection and Notes	110
	Algebra 2 Graphs of Trigonometric Functions Unit Planner	110
	Conclusion	115
	Epilogue: Mathematics Team Organization	117
	Final Thoughts	118
	Appendix A: Create a Proficiency Map	121
	Appendix B: Team Checklist and Questions for Mathematics Unit Planning	123
	Generate Essential Learning Standards	123
	Create a Unit Calendar	123
	Identify Prior Knowledge	124
	Determine Vocabulary and Notations	124
	Identify Resources and Activities	124
	Agree on Tools and Technology	124
	Record Reflection and Notes	124
	Team Questions to Generate Essential Learning Standards	125

Team Questions to Create a Unit Calendar	125
Team Questions to Identify Prior Knowledge	125
Team Questions to Determine Vocabulary and Notations	125
Team Questions to Identify Resources and Activities	125
Team Questions to Agree on Tools and Technology	126
Team Questions to Record Reflection and Notes	126
References and Resources	127
Index	129