

Instructional Guide
Algebra Year 1 of 2 – Mathematics
September 2022 through January 2023

Algebra I - Year 1 of 2 Overview

Module	Standards
M1: Relationships Between Quantities and Reasoning with Equations and Their Graphs	N-Q.1, N-Q.2, N-Q.3, A-SSE.1a, A-SSE.1b, A.SSE.2, A-APR.1, A-CED.1, A-CED.2, A-CED.3, A-CED.4, A-REI.1, A-REI.3, A-REI.5, A-REI.6, A-REI.10, A-REI.12
M2: Descriptive Statistics	S-ID.1, S-ID.2, S-ID.3, S-ID.5, S-ID.6, S-ID.6a, S-ID.6b, S-ID.6c, S-ID.7, S-ID.8, S-ID.9
M3: Linear and Exponential Functions	A-REI.11, A.SSE.3c, A.CED.1, F-BF.1a, F-IF.1, F-IF.2, F-IF.3, F-IF.4, F-IF.5, F-IF.6, F-IF.7a, F-IF.9, F-BF.3, F-LE.1, F-LE.1a, F-LE.1b, F-LE.1c, F-LE.2, F-LE.3, F-LE.5
Exam Review	Regents Exam June 2023

See PAGE 3 for your September to January PACING

9-12 MATHEMATICS - DIGITAL RESOURCES

	Moby Max	IXL
Purpose	Moby Max is designed to find and fix learning gaps using the power of personalized learning.	IXL is a targeted learning tool used to provide personalized action plans and links related to the academic progress and areas of need for each student.
District Expectations	<p>Every student will take the Moby Max</p> <p>Moby Max will be used to provide intervention in the areas where individual students are struggling.</p> <p>Moby Max may also be used to support grade level instruction.</p> <p>Moby Max covers content only through grade 8</p>	<p>IXL will be used as a district benchmark for all high school math courses <u>and</u> grade 8 Algebra during three identified testing windows: BOY (diagnostic), MOY (snapshot) and EOY (snapshot).</p> <p>Students must also work in IXL diagnostic arena for 10 minutes <u>each week</u> in order to keep their levels and recommendations up to date.</p>
Available supports/webinars	https://vimeo.com/mobymax	https://www.ixl.com/userguides

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IMPORTANT Module 1 Notes:

Based on the **Next Generation Math Standards (to be implemented SY23-24)**, please keep the following upcoming changes in mind, as you teach this Module:

- Operations with Radicals were added
- Solving Linear/Quadratic Systems was added
- Factoring quadratics has been limited to trinomials with a leading coefficient of 1 after a GCF has been factored
- Complete the square has been limited to a leading coefficient of 1 and an even “b” term
- Residuals have been moved to a Plus Standard
- Sequences will be limited to explicit forms only and will be written in subscript notation

Module 1 Vocabulary

Algebraic expression	Constant term	Degree of a polynomial	Degree of monomial
Equivalent algebraic expressions	Equivalent numerical expressions	Graph of an equation in two variables	Leading term/Leading coefficient
Monomial	Numeric expression	Numerical symbol	Piecewise linear function
Polynomial expression	Solution	Solution set	Standard form of a polynomial
Variable symbol	Zero product property		

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PACING Plan for September 2022 – January 2023

Quarter 1 - weeks	Quarter 1 - dates	Sept - Jan PACING	Instructional Notes
Week 1	9/6 - 9/9		
Week 2	9/12 - 9/16	M1 Lesson 1: Graphs of Piecewise Linear Functions M1 Lesson 2: Graphs of Quadratic Functions	For lessons 1-5 Focus on students understanding the shape and type of graph. i.e. Parabola is quadratic, straight line is linear, etc. The video is an example of what to focus on. Lesson 1 Video: http://www.mrmeyer.com/graphingstories1/graphingstories2.mov Lesson 2 Videos: (Example 1 video): https://www.youtube.com/watch?v=GcrPQD0kX2U (exploratory challenge video): https://www.youtube.com/watch?v=ZCFBC8aXz-g YouTube video (*YouTube videos are a resource. May not be viewable with student accounts)
Week 3	9/19 - 9/23	M1 Lessons 3: Graphs of Exponential Functions M1 Lesson 4: Analyzing Graphs M2 Lesson 5: Two Graphing Stories	Lesson 3 video: https://www.youtube.com/watch?v=gEwzDydcIWc
IXL BOY/SNAPSHOT WINDOW (9/26-10/7)			
Week 4	9/26 – 9/30	M1 Lessons 6 & 7 Distributive, Associative and Commutative Properties	KA: Multiple videos for all properties

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Week 5	10/3 - 10/7	M1 Lessons 8 & 9 Operating with Polynomials	These lessons should be spread over 2 weeks to allow for sufficient practice. Also, to allow time for the Mid Module Assessment. KA: Polynomial Video
Week 6	10/11 -10/14	Practice operations with polynomials and Mid-Module	
Week 7	10/17 - 10/21	M1. Lesson 10 True and False Equations & Lesson 11 Solution Sets for Equations and Inequalities	Lesson 11-19 be sure to build a solid base of solving linear equations that uses properties of real numbers and creates a foundation for solving systems of linear equations by substitution and elimination; include one step, two step, multi-step, and variables on both sides.
Week 8	10/24 - 10/28	M1 Lessons 12 & 13 Solution sets and Solving Equations - include one step, two step, multi-step, and variables on both sides	These lessons should be spread over 2 weeks to allow for sufficient practice.
Week 9	10/31 - 11/4	*Time to practice solving equations and proficient use of the graphing calculator M1 Lesson 14 Solving Inequalities	KA: Lesson 14
Week 10	11/7 - 11/10	M1 Lesson 15 Solution Sets of Two or More Equations (or Inequalities) Joined by “And” or “Or” M1 Lesson 16 Solving and Graphing Inequalities Joined by “And” or “Or”	
Quarter 2 - weeks	Quarter 2 - dates	Sept - Jan PACING	Instructional Notes
Week 11	11/14 - 11/18	M1 Lessons 17 Equations Involving Factored Expressions M1 Lesson 18 Equations Involving a Variable Expression in the denominator	KA: Lesson 18
Week 12	11/21 - 11/23	M1 Lesson 19: Rearranging Formulas	KA: Lesson 19

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Week 13	11/28 - 12/2	M1 Lesson 20: Solution Sets to Equations with Two Variables M1 Lesson 21: Solution Sets to Inequalities with Two Variables	KA: Lesson 21
Week 14	12/5 - 12/9	M1 Lesson 22: Solution Sets to Simultaneous Equations	KA: Lesson 22
IXL MOY/SNAPSHOT (12/12-12/23)			
Week 15	12/12 - 12/16	M1 Lesson 23: Solution Sets to Simultaneous Equations	
Week 16	12/19 - 12/23	M1 Lesson 24: Applications of Systems of Equations and Inequalities	
Week 17	1/3 - 1/6	M1 Lesson 25: Solving Problems in Two Ways— Rates and Algebra M1 Lesson 26: Recursive Challenge Problem	
Week 18	1/9 - 1/13	M1 Lesson 27: Recursive Challenge M1 Lesson 28: Federal Income Tax	
Week 19	1/17 - 1/20	Module 1 Review and Assessment	
Week 20	1/23 - 1/27	Regents Week	