

Instructional Guide
Principles of Algebra and Geometry – Mathematics
September 2022 through January 2023

Principles of Algebra and Geometry Overview

	Suggested Date Range	Standards
<p style="text-align: center;">Algebra I Enrichment</p> <ul style="list-style-type: none"> ● Formulas: interest, compound interest, percent change, laws of exponents, quadratic, Pythagorean Theorem, distance, slope, etc. ● Algebraic expressions ● Equations and inequalities ● Ratios and proportions (recipes) ● PLUS differentiated exam preparation 	September - January	
<p style="text-align: center;">Consumer Math - managing personal income</p> <ul style="list-style-type: none"> ● Budgeting ● Banking ● Credit ● Contract cost analysis – cell, cable, internet, buying, leasing, etc. ● Owning versus renting/leasing ● Home and car ownership – financing, interest, taxes ● Tax, tip and discount ● PLUS differentiated exam preparation 		
January Regents Examination		

Instructional Guide
Principles of Algebra and Geometry – Mathematics
September 2022 through January 2023

Module	Suggested Date Range	Standards
<p style="text-align: center;">Grade 7 Module 1: Topics D Ratio of Scale Drawing</p> <p style="text-align: center;">Grade 7 Module 3: Topic C Use Equations and Inequalities to Solve Geometric Problems (Area and Circumference of Circle)</p> <p style="text-align: center;">Grade 7 Module 4: Topic C Scale Drawing</p> <p style="text-align: center;">Grade 7 Module 6: Topic C Slicing Solids</p>	<p>January – February</p>	<p>7.G.1, 7.G.3, 7.G.4</p>
<p style="text-align: center;">Grade 8 Module 2: Topics A, B, C Concept of Congruence</p> <p style="text-align: center;">Grade 8 Module 3: Topics A,B</p>	<p>March – April</p>	<p>8.G.1a, 8.G.2, 8.G.5, 8.G.1b, 8.G.3, 8.G.1c, 8.G.4</p>

Instructional Guide
Principles of Algebra and Geometry – Mathematics
September 2022 through January 2023

<p style="text-align: center;">Grade 8 Module 5: Topic B Volume</p> <p style="text-align: center;">Grade 8 Module 7: Topic C Pythagorean Theorem</p> <p style="text-align: center;">Grade 8 Module 7: Topic D Application of Radical and Roots</p>	<p>April – May</p>	<p>8.G.6, 8.G.7, 8.G.8, 8.G.9</p>
<p style="text-align: center;">Geometry Module 1: Topic A Basic Constructions</p> <p style="text-align: center;">Geometry Module 1: Topic B Unknown Angles</p> <p style="text-align: center;">Geometry Module 1: Topic C Transformations/Rigid Motion</p>	<p>May – June</p>	<p>G-CO.1, G-CO.8, G-CO.2, G-CO.9, G-CO.3, G-CO.10, G-CO.4, G-CO.11, G-CO.5, G- CO.12, G-CO.6, G-CO.13, G-CO.7</p>

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

Instructional Guide
Principles of Algebra and Geometry – Mathematics
September 2022 through January 2023

PACING Plan for September 2022 – January 2023

Principles of Algebra and Geometry			
Quarter 1 - weeks	Quarter 1 - days	Topic	Module Resources
Week 1	9/6 – 9/9		
Week 2	9/12 – 9/16	Interest Compound interest Percent change	https://www.engageny.org/resource/algebra-i-module-3-topic-lesson-4
Week 3	9/19 – 9/23	Laws of exponents	https://www.engageny.org/resource/grade-8-mathematics-module-1-topic-lesson-2 https://www.khanacademy.org/math/pre-algebra/pre-algebra-exponents-radicals/pre-algebra-exponent-properties/v/exponent-properties-involving-products http://jmap.org/htmlstandard/8.EE.A.1.htm
IXL BOY/SNAPSHOT WINDOW (9/26-10/7)			
Week 4	9/26 – 9/30	Quadratics	https://www.engageny.org/resource/algebra-i-module-4-topic-overview http://jmap.org/htmlstandard/A.REI.B.4.htm
Week 5	10/3 – 10/7	Pythagorean Theorem	https://www.engageny.org/resource/grade-8-mathematics-module-7-topic-c-overview https://www.khanacademy.org/math/basic-geo/basic-geometry-pythagorean-theorem/geo-pythagorean-theorem/a/pythagorean-theorem-intro

Instructional Guide
Principles of Algebra and Geometry – Mathematics
September 2022 through January 2023

Week 6	10/11 - 10/14	Distance Slope	https://www.engageny.org/resource/geometry-module-4-topic-d-lesson-15 https://www.khanacademy.org/math/basic-geo/basic-geometry-pythagorean-theorem/pythagorean-theorem-distance/v/distance-formula https://www.khanacademy.org/math/algebra/x2f8bb11595b61c86:linear-equations-graphs/x2f8bb11595b61c86:slope/v/introduction-to-slope http://jmap.org/htmlstandard/F.IF.B.6.htm
Week 7	10/17 - 10/21	Algebraic Expressions	https://www.engageny.org/resource/algebra-i-module-4 http://jmap.org/htmlstandard/A.SSE.A.1.htm https://www.khanacademy.org/math/algebra-basics/alg-basics-algebraic-expressions
Week 8	10/24 - 10/28	Equations and Inequalities	https://www.engageny.org/resource/algebra-i-module-1-topic-c-overview https://www.khanacademy.org/math/algebra/x2f8bb11595b61c86:solve-equations-inequalities/x2f8bb11595b61c86:multistep-inequalities/v/multi-step-inequalities http://jmap.org/htmlstandard/A.REI.B.3.htm https://www.khanacademy.org/math/algebra-home/alg-basic-eq-ineq/alg-old-school-equations/v/algebra-linear-equations-3
Week 9	10/31 - 11/4	Ratios and Proportions	https://www.engageny.org/resource/grade-7-mathematics-module-1-topic-c-lesson-12 https://www.khanacademy.org/math/get-ready-for-algebra-i/x127ac35e11aba30e:get-ready-for-working-with-units

Instructional Guide
Principles of Algebra and Geometry – Mathematics
September 2022 through January 2023

Week 10	11/7 - 11/10	Budgeting	https://www.lrhdsd.org/Page/3906 http://www.illinoisonlinehighschool.org/uploads/1/8/6/5/18653164/consumer_math_workbook.pdf https://www.khanacademy.org/college-careers-more/personal-finance/pf-saving-and-budgeting/pf-a-dvice-for-individuals-tutorial/v/pf-experiences-or-things?modal=1 https://bettermoneyhabits.bankofamerica.com/en/saving-budgeting/creating-a-budget https://financeintheclassroom.org/passport/ninth/math.shtml#points
Quarter 2 - weeks	Quarter 2 - days	Topic	Instructional Resources
Week 11	11/14 - 11/18	Banking	https://www.khanacademy.org/economics-finance-domain/core-finance/money-and-banking/banking-and-money/v/banking-1 https://www.lrhdsd.org/Page/3906
Week 12	11/21 - 11/23	Credit	https://bettermoneyhabits.bankofamerica.com/en/credit
Week 13	11/28 - 12/2	Contract cost analysis – cell, cable, internet, buying, leasing, etc.	https://www.lrhdsd.org/Page/3906 https://www.khanacademy.org/economics-finance-domain/ap-microeconomics/basic-economic-concepts/cost-benefit-analysis/v/opportunity-costs

Instructional Guide
Principles of Algebra and Geometry – Mathematics
September 2022 through January 2023

Week 14	12/5 - 12/9	Owning versus renting/leasing	https://bettermoneyhabits.bankofamerica.com/en/home-ownership/renting-owning-house?cm_mmc=ENT-Consumer- -Google-PS- -owning-vs-renting- -NB_BMH&gclid=EAlalQobChMliPPw0OG86wIVTeG1Ch230wyCEAAYASAAEgLmDPD_BwE https://www.nerdwallet.com/mortgages/rent-vs-buy-calculator https://www.investopedia.com/articles/personal-finance/083115/renting-vs-owning-home-pros-and-cons.asp
IXL MOY/SNAPSHOT WINDOW (12/12-12/23)			
Week 15	12/12 - 12/16	Home and car ownership – financing, interest, taxes	https://www.lrhdsd.org/Page/3906
Week 16	12/19 - 12/23	Tax, tip and discount	https://downstairsmath.weebly.com/uploads/3/7/1/8/37189031/notes-sales-tax-and-discount.pdf https://www.madison-schools.com/cms/lib/MS01001041/Centricity/Domain/4310/markup%20and%20discount%20notes%20.pdf https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-percent-word-problems/e/tax-and-tip-word-problems
Week 17	1/3 - 1/6	DIFFERENTIATED exam preparation	Review your data and determine which Algebra I standards, if any, need attention. Resources for exam review: JMAP review by standard

Instructional Guide
Principles of Algebra and Geometry – Mathematics
September 2022 through January 2023

Week 18	1/9 - 1/13	DIFFERENTIATED exam preparation	Review your data and determine which Algebra I standards, if any, need attention. Resources for exam review: JMAP review by standard
Week 19	1/17 – 1/20	DIFFERENTIATED exam preparation Regents week – ALL students will take the Algebra I Regents examination	Review your data and determine which Algebra I standards, if any, need attention. Resources for exam review: JMAP review by standard
Week 20	1/23 – 1/27	DIFFERENTIATED exam preparation Regents week – ALL students will take the Algebra I Regents examination	Review your data and determine which Algebra I standards, if any, need attention. Resources for exam review: JMAP review by standard Regents Exams Tues. 1/24 - Fri. 1/27