

Additional Resources Algebra- Mathematics

Key	
NLVM: National Library of Virtual Manipulatives	IM: Illustrative Mathematics Website
INSM: Inside Mathematics	SHM: shmoop
NCTM: National Council of Teachers of Mathematics	CPS: Cpalms.org link to math standards and resources
PM: Purplemath.com	VN: Virtual Nerd - Algebra
ST: Stat Trek	MAP: Mathematics Assessment Project
BLC: Better Lesson.com	ALE: Alabama Learning Exchange
DM: Dan Meyer's work	UT: Utah Board of Education

Standards	Engage NY Module(s)	Additional Resources by Standard	
N-Q.1*	1	Teaching Video/CCLS Type Question <ul style="list-style-type: none"> • Fly or Drive? SHM: MATH.N.Q.1	IM:N-Q.1 Weed Killer How Much is a Penny Worth?
N-Q..2*	1,5	SHM: MATH.N.Q.2 Example CCLS Lesson Video – For Patterns: http://www.youtube.com/watch?v=ZFdeCkpwACQ	Betterlesson.com – Activities: Define appropriate quantities for the purpose of descriptive modeling.* Rates & Proportions: YouTube Video (8th-12th)
N-Q.3*	1,5	SHM: MATH.N.Q.3 BLC: Various Activities to choose	IM:N-Q.3 <ul style="list-style-type: none"> • Calories in a sports drink • Dinosaur Bones

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A-SSE.1*	1,4	SHM: MATH.A.SSE.1	IM: Illustrative Mathematics Website <ul style="list-style-type: none"> • Mixing candies; • Increasing or decreasing? Variation1 • Delivery Trucks 1 • Delivery Trucks 2 • Kitchen Floor Tiles
A.SSE.2	1,4	CSP: standard based resource link	IM: Illustrative Mathematics Website <ul style="list-style-type: none"> • Animal Populations
A-APR.1	1,4	NCTM: Polynomial Puzzler - Membership required NLVM: National Library of Virtual Manipulatives	
A-CED.1*	1,3,4,5	SHM: MATH.A-CED.1 Solving Equations with Infinite or No Solutions: http://www.charleston.k12.il.us/cms/Teachers/math/PreAlgebra/paunit5/L5-4.PDF INSM: Inside Mathematics <ul style="list-style-type: none"> • Diminishing Return; Level D, Level E • Growing Staircases; Level D, Level E • Once Upon a Time; Level D, Level E • Surrounded and Covered; Level D, Level E CPS: When will we ever meet? SHM: Overview of Standard with Examples choose NEA Portal: Solve Linear Formulas & Literal Equations for a Specified Variable	IM: Illustrative Mathematics Website <ul style="list-style-type: none"> • Basketball • Buying a Car • Harvesting the fields • Paying the Rent • Planes and Wheat Algebra Lab: Converting words to equations TINspired: Dog Days or Dog Years? BLC: Various Activities to

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A-CED.2*	1,4,5	<p>SHM: MATH.A-CED.2</p> <p>Cross Curricula: Science IM: Illustrative Mathematics</p> <p>Website Frosty the Snowman Meets His Demise: An Analogy to <u>olate</u> • How much</p> <p>Carbon Dating</p> <p>INSM: Inside Mathematics</p> <p>NCTM: *membership required</p> <ul style="list-style-type: none"> • Measuring Up; Level E • On Balance; Level D, Level E • Surrounded and Covered; Level D, Level E <p>• Rates and Taxes</p> <p>• Making connections among different classes of polynomial functions by exploring the graphs of the functions</p> <p>University of Berkley Solving Linear Equations in Two Variables</p> <p>• Model exponential growth: drawing graphs and BLC: <u>VariousActivities writing equations</u></p> <p>NCTM: free resource: Graphing the Situation</p>
A-CED.3*	1	<p>SHM: MATH.A-CED.3</p> <p>INSM: Inside IM: Illustrative Mathematics Website</p> <ul style="list-style-type: none"> • Measuring Up; Level D, Level E • Surrounded and Covered; Level D, Level E • Dimes & quarters • Writing constraints <p>The Wheel Shop; Level C, Level E</p>
A-CED.4*	1	<p>SHM: MATH.A-CED.4</p>

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A-REI.1	1	SHM: MATH.A.REI.1 UT: USU Manipulatives	
A-REI.3	1	SHM: MATH.A.REI.3 NLVM: Resources	INSM: Inside Mathematics <ul style="list-style-type: none"> • Diminishing Return; Level D, Level E
A-REI.5	1	SHM: A.REI.5 resource page:	
A-REI.6	1		
A-REI.10	1	SHM: A.REI.10 resource page	
A-REI.12	1	Graphing Linear Inequalities Graphing Linear Inequalities in Two Variables	IM: A-REI.12 <ul style="list-style-type: none"> • Fishing Adventures • Solution Sets
S-ID.1	2	Link for raw data: Data source Costs NLVM: Resource ST: Dotplot Histogram Box plot	IM: Haircut Speed Trap SHM: MATH.S.ID.1 VN: S-ID-1
S-ID.2	2	ST: Central tendency Variability Charts, compare data sets	IM: Speed Trap SHM: MATH.S.ID.2 VN: S-ID-2

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S-ID.3	2	ST: Scatter Plot Compare data sets Regression	IM: Speed Trap SHM: MATH.S.ID.3 ST: S-ID-3
S-ID.5	2	ST: Cumulative Two Way Table Two Way Frequency Tables SHM: MATH.S.ID.5 VN: Interpreting Categorical Quantitative Data	IM: Musical Preferences
S-ID.6	2	INSM: Through the Grape Vine ST: Scatter Plot Penny Circle	IM: Coffee and Crime VN: Interpreting Categorical Quantitative Data
S-ID.6a	2,5		
S-ID.6b	2		
S-ID.6c	2		
S-ID.7	2	ST: Linear Regression SHM: MATH.S.ID.7 PM: The Meaning of Slope and y-Intercept	IM: Coffee and Crime Texting and Grades VN: How Do You Use the Graph of a Linear Equation to Solve a Word Problem?
S-ID.8	2	SHM: MATH.S.ID.8 ST: Linear Correlation Coefficient	IM: Coffee and Crime
S-ID.9	2		

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A-SSE.3c	3	Use properties of exponents to transform expressions as functions SHM: A.SSE.3c VN: A.SSE.3c
A-REI.11	3	IM: <ul style="list-style-type: none"> • Squares are equal • Population and food • College fund
F-IF.1	3	IM: Points on a Graph
F-IF.4	3,4,5	*make sure to address where the function is positive or negative DM: Taco Cart Betterlesson.com - Various activities IM: <ul style="list-style-type: none"> • How is the Weather? • Influenza epidemic • Logistic Growth Model, Explicit Version • Telling a Story With Graphs • Throwing Baseballs • Warming and Cooling • The Canoe Trip
F-IF.6	3,4,5	IM : Mathemafish Population BLC: Various activities
F-IF.7a	3,4	<ul style="list-style-type: none"> • Kuta Software Worksheets (free online) • Geogebra IM: Graphs of Quadratic Functions

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F-LE.2*	3,5	<p>IM: many lessons</p> <p>ALE: Writing equations for parallel lines</p> <p>NCTM: * membership required</p> <ul style="list-style-type: none"> • Shrinking Candles, Running Water, Folding Boxes • How Did I Move? • How Should I Move? 	<p>IM: Temperatures in Degrees and Celsius (a)</p> <ul style="list-style-type: none"> • Basketball Bounces, Assessment Variation 1 • Basketball Bounces, Assessment Variation 2 • Do two points always determine a linear function II? • Do two points always determine a linear function? • Rumors • Sandia Aerial Tram • Snail Invasion • Two Points Determine an Exponential Function I • Two Points Determine an Exponential Function II • Temperature Change <p>UT: F-LE.2</p> <p>BLC: Various activities</p>
F-LE.5*	3	IM: Function Matching	IM: Illegal Fish Taxi!
A.CED.1	1,3,4,5	CPS: When will we ever meet?	
N-RN.3*	4	UT: The Number System	

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A-SSE.1*	4	algebraic-expressions-and-equations-special-binomial-pr Account oducts SHM: MATH.A.SSE.2	IM: The Bank IM: Delivery Trucks IM: Kitchen Floor Tiles IM: Mixing Candies
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A-SSE.2	1,4	NCTM: *membership required <ul style="list-style-type: none"> • Distributing and Factoring Using Area • Difference of Squares 	IM: Equivalent Expressions IM: Seeing Dots
A-SSE.3*	3,4	IM: Profit of a Company	
A-SSE.3a	4	VN: Factoring trinomial videos http://www.virtualnerd.com/common-core/hsa-algebra/H_SA-SSE-expressions-seeing-structure/B/3/3a/	
A-SSE.3b	4	Videos: Finding max/min of quadratic by completing the square VN: Finding max/min of quadratic by completing the square #2	
A-APR.1	1,4	NCTM: *membership required Polynomial Puzzler	
A-APR.3	4		
A-REI.4a,b	1,4	IM: Two Squares are Equal	
F-IF.5*	3,5	Consider appropriate domain when working with Activity/Lesson functions and real-world problems.	UEN -
F-IF.7*	3,4	IM: Graphs of Quadratic Functions	
F-IF.8a	4	IM: F-IF.8 <ul style="list-style-type: none"> • Which Function? Springboard Dive	

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F-IF.9	4	IM: F-IF.9 Throwing Baseballs
F-BF.1b	5	MAP: <ul style="list-style-type: none"> • Best Buy Tickets (task) • Generalizing Patterns: Table Tiles (lesson) • Patchwork (task)
F-BF.1c	5	<p>ALE: Writing equations for parallel lines</p> <p>MAP: Generalizing Patterns:</p> <p>IM: Crude Oil and Gas mileage</p> <ul style="list-style-type: none"> • Temperature Conversions • Graphs of Compositions • Flu on Campus • Building an Exponential Quadratic Function by Composition
F-LE.1b F-LE.1c	3, 5	<p>IM: Interesting Interest Rates</p> <p>VN: Linear-quadratic-exponential-model</p> <p>IM: Basketball Bounces</p>
F-LE.3	3	<p>DM: Falling Glowsticks</p> <p>DM: Toothpicks</p> <p>DM: Falling Rocks</p> <p>IM:</p> <ul style="list-style-type: none"> • Exponential growth versus linear growth I • Exponential growth versus linear growth II • Population and Food Supply

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HOT Tasks	<p><i>“Higher order questions are those that the students cannot answer just by simple recollection or by reading the information “verbatim” from the text. Higher-order questions put advanced cognitive demand on students. They encourage students to think beyond literal questions.</i></p> <p><i>Higher-order questions promote critical thinking skills because these types of questions expect students to apply, analyze, synthesize, and evaluate information instead of simply recalling facts.”</i></p> <p>https://dataworks-ed.com/blog/2014/10/higher-order-questions/</p>
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