

Illustrative Mathematics: Algebra I Pacing

Unit 1 – One-Variable Statistics

Date			Lesson	Standards
__/__/__	Pre-Unit Assessment			
__/__/__	Getting to Know You	L1: Getting to Know You		HSS-ID.A.1
__/__/__		L2: Data Representations*		HSS-ID.A.1, HSS-ID.A.2
__/__/__		L3: A Gallery of Data		HSS-ID.A.1, HSS-ID.A.2
__/__/__	Distribution Shapes	L4: The Shape of Distributions		HSS-ID.A.1, HSS-ID.A.2
__/__/__		L5: Calculating Measures of Center & Variability*		HSS-ID.A.1, HSS-ID.A.2
__/__/__	How to Use Spreadsheets	L6: Mystery Computations*		
__/__/__		L7: Spreadsheet Computations*		
__/__/__		L8: Spreadsheet Shortcuts*		
__/__/__	Manipulating Data	L9: Technological Graphing		HSS-ID.A.1, HSS-ID.A.2, HSS-ID.A.3
__/__/__		L10: The Effect of Extremes		HSS-ID.A.1, HSS-ID.A.2, HSS-ID.A.3
__/__/__		L11: Comparing & Contrasting Data Distributions		HSS-ID.A.2, HSS-ID.A.3
__/__/__		L12: Standard Deviation		HSS-ID.A.2, HSS-ID.A.3
__/__/__		L13: More Standard Deviation		HSS-ID.A.2, HSS-ID.A.3
__/__/__		L14: Outliers		HSS-ID.A.1, HSS-ID.A.2, HSS-ID.A.3
__/__/__		L15: Comparing Data Sets		HSS-ID.A.1, HSS-ID.A.2, HSS-ID.A.3
__/__/__	Analyzing Data	L16: Analyzing Data		HSS-ID.A.1, HSS-ID.A.2, HSS-ID.A.3
__/__/__	End-Unit Assessment			

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Unit 2 – Linear Equations, Inequalities, and Systems

Date		Lesson	Standards
__/__/__	Pre-Unit Assessment		
__/__/__	Writing & Modeling with Equations	L1: Planning a Pizza Party	HSA-CED.A.2, HSA-CED.A.3, HSN-Q.A.2
__/__/__		L2: Writing Equations to Model Relationships (Part 1)	HSA-CED.A.2, HSA-CED.A.3
__/__/__		L3: Writing Equations to Model Relationships (Part 2)	HSA-CED.A.2, HSA-CED.A.3, HSF-LE.A.2
__/__/__		L4: Equations & Their Solutions	HSA-REI.A, HSA-REI.B.3
__/__/__		L5: Equations & Their Graphs	HSA-CED.A.2, HSA-CED.A.3, HSA-REI.D.10
__/__/__	Manipulating Equations & Understanding Their Structure	L6: Equivalent Equations	HSA-CED.A.2, HSA-REI.A, HSA-REI.A.1, HSA-SSE.A.1
__/__/__		L7: Explaining Steps for Rewriting Equations	HSA-REI.A, HSA-REI.A.1
__/__/__		L8: Which Variable to Solve for? (Part 1)	HSA-CED.A.4, HSA-REI.B.3
__/__/__		L9: Which Variable to Solve for? (Part 2)	HSA-CED.A.3, HSA-CED.A.4, HSA-REI.B.3
__/__/__		L10: Connecting Equations to Graphs (Part 1)	HSA-CED.A.3, HSA-CED.A.4, HSA-REI.D.10
__/__/__		L11: Connecting Equations to Graphs (Part 2)	HSA-CED.A.4, HSA-REI.D.10
__/__/__	Systems of Linear Equations in Two Variables	L12: Writing & Graphing Systems of Linear Equations	HSA-CED.A.3, HSA-REI.A, HSA-REI.C.6
__/__/__		L13: Solving Systems by Substitution	HSA-REI.C.6
__/__/__		L14: Solving Systems by Elimination (Part 1)	HSA-REI.C.5, HSA-REI.C.6
__/__/__		L15: Solving Systems by Elimination (Part 2)	HSA-REI.C.5, HSA-REI.C.6
__/__/__		L16: Solving Systems by Elimination (Part 3)	HSA-REI.C.5, HSA-REI.C.6
__/__/__		L17: Systems of Linear Equations & Their Solutions	HSA-CED.A.3, HSA-REI.C.6

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//_	Mid-Unit Assessment		
//_	Linear Inequalities in One Variable	L18: Representing Situations with Inequalities	HSA-CED.A.3, HSN-Q.A.2
//_		L19: Solutions to Inequalities	HSA-CED.A.1, HSA-REI.B.3
//_		L20: Writing & Solving Inequalities in One Variable	HSA-CED.A.1, HSA-CED.A.3, HSA-REI.B.3
//_	Linear Inequalities in Two Variables	L21: Graphing Linear Inequalities in Two Variables (Part 1)	HSA-REI.D.12
//_		L22: Graphing Linear Inequalities in Two Variables (Part 2)	HSA-CED.A.3, HSA-REI.D.10, HSA-REI.D.12
//_		L23: Solving Problems with Inequalities in Two Variables	HSA-CED.A.3, HSA-REI.D.12
//_	Systems of Linear Inequalities in Two Variables	L24: Solutions to Systems of Linear Inequalities in Two Variables	HSA-CED.A.3, HSA-REI.D.12
//_		L25: Solving Problems with Systems of Linear Inequalities in Two Variables	HSA-REI.D.12
//_		L26: Modeling with Systems of Inequalities in Two Variables	HSA-CED.A.3, HSA-REI.D.12, HSN-Q.A.2
//_	End-Unit Assessment		

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Unit 3 – Two Variable Statistics

Date	Lesson		Standards
//___	Pre-Unit Assessment		
//___	Two-way Tables	L1: Two-way Tables	HSS-ID.B.5
//___		L2: Relative Frequency Tables	HSS-ID.B.5
//___		L3: Associations in Categorical Data	HSS-ID.B.5
//___	Scatterplots	L4: Linear Models	HSS-ID.B.6, HSS-ID.B.6.a, HSS-ID.B.6.c, HSS-ID.C.7
//___		L5: Fitting Lines	HSS-ID.B.6, HSS-ID.B.6.b, HSS-ID.B.6.c, HSS-ID.C.7
//___		L6: Residuals	HSN-Q.A.3, HSS-ID.B.6.a, HSS-ID.B.6.b, HSS-ID.B.6.c
//___	Correlation Coefficients	L7: The Correlation Coefficient	HSS-ID.B.6, HSS-ID.C.8
//___		L8: Using the Correlation Coefficient	HSS-ID.B.6, HSS-ID.B.6.a, HSS-ID.C.7, HSS-ID.C.8, HSS-ID.C.9
//___		L9: Casual Relationships	HSS-ID.A, HSS-ID.B.5, HSS-ID.B.6, HSS-ID.C.7, HSS-ID.C.8, HSS-ID.C.9
//___	Estimating Lengths	L10: Fossils and Flags*	HSS-ID.B.6, HSS-ID.C.7, HSS-ID.C.8, HSS-ID.C.9
//___	End-Unit Assessment		

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Unit 4 – Functions

Date		Lesson	Standards
___/___/___	Pre-Unit Assessment		
___/___/___	Functions & Their Representations	L1: Describing & Graphing Situations	HSF-IF.A.1, HSF-IF.B.4
___/___/___		L2: Function Notation	HSF-IF.A.1, HSF-IF.A.2, HSF-IF.B.4
___/___/___		L3: Interpreting & Using Function Notation	HSF-IF.A.2, HSF-IF.B.4
___/___/___		L4: Using Function Notation to Describe Rules (Part 1)	HSF-BF.A.1, HSF-BF.A.1.a, HSF-IF.A.1, HSF-IF.A.2, HSF-IF.B.4, HSF-IF.C
___/___/___		L5: Using Function Notation to Describe Rules (Part 2)*	HSA-REI.A.1, HSF-IF.A.2, HSF-IF.B.4, HSF-IF.C.7
___/___/___	Analyzing & Creating Graphs of Functions	L6: Features of Graphs	HSF-IF.B.4
___/___/___		L7: Using Graphs to Find Average Rate of Change	HSF-IF.B.6
___/___/___		L8: Interpreting & Creating Graphs	HSF-IF.B.4, HSF-IF.B.6, HSN-Q.A, HSN-Q.A.2
___/___/___		L9: Comparing Graphs	HSA-REI.D.11, HSF-IF.B.4, HSF-IF.B.6
___/___/___	Mid-Unit Assessment		
___/___/___	A Closer Look at Inputs & Outputs	L10: Domain & Range (Part 1)	HSF-IF.B, HSF-IF.B.5
___/___/___		L11: Domain & Range (Part 2)	HSF-IF.B.4, HSF-IF.B.5
___/___/___		L12: Piecewise Functions	HSF-IF.A.2, HSF-IF.B.5, HSF-IF.C, HSF-IF.C.7, HSF-IF.C.7.b
___/___/___		L13: Absolute Value Functions (part 1)	HSF-IF.C, HSF-IF.C.7.b
___/___/___		L14: Absolute Value Functions (part 2)	HSF-BF.A.1, HSF-BF.A.1.a, HSF-BF.B.3, HSF-IF.C, HSF-IF.C.7.b
___/___/___	Inverse Functions	L15: Inverse Functions	HSF-BF.B.4
___/___/___		L16: Finding & Interpreting Inverse Functions	HSA-CED.A.4, HSF-BF.B.4
___/___/___		L17: Writing Inverse Functions to Solve Problems	HSF-BF.A.1, HSF-BF.B.4, HSF-BF.B.4.a, HSF-IF.A.2, HSF-IF.B.4, HSS-ID.B.6.a, HSS-ID.B.6.c

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//_	Putting it All Together	L18: Using Functions to Model Battery Power	HSA-SSE.A.1, HSF-BF.A.1, HSF-IF.B, HSF-IF.B.4, HSF-IF.B.6, HSS-ID.B.6, HSS-ID.B.6.a, HSS-ID.B.6.c
//_	End-Unit Assessment		

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Unit 5 – Introduction to Exponential Functions

Date		Lesson	Standards
__/__/__	Pre-Unit Assessment		
__/__/__	Looking at Growth	L1: Growing & Growing	HSF-BF.A.1.a, HSF-IF.B.4, HSF-LE.A.3
__/__/__		L2: Patterns of Growth	HSF-BF.A, HSF-BF.A.1.a, HSF-IF.B.4, HSF-LE.A.1, HSF-LE.A.2
__/__/__	A New Kind of Relationship	L3: Representing Exponential Growth	HSA-CED.A.2, HSF-BF.A.1.a, HSF-IF.C.7, HSF-LE.B.5
__/__/__		L4: Understanding Decay	HSA-CED.A.2, HSA-SSE.A.1, HSF-BF.A, HSF-BF.A.1.a, HSF-LE.A.2, HSF-LE.B.5
__/__/__		L5: Representing Exponential Decay*	HSA-CED.A.2, HSF-BF.A, HSF-IF.B.4, HSF-IF.C.7.e, HSF-LE.A.2, HSF-LE.B.5
__/__/__		L6: Analyzing Graphs	HSA-CED.A.2, HSF-BF.A.1, HSF-IF.B.4
__/__/__		L7: Using Negative Exponents	HSA-CED.A.2, HSA-SSE.A.1, HSF-IF.B.4, HSF-IF.C.7.e, HSF-LE.B.5, HSN-Q.A.1
__/__/__	Exponential Functions	L8: Exponential Situations as Functions	HSF-IF.A.2, HSF-IF.B, HSF-IF.B.5, HSF-IF.C.7, HSF-LE.A.2, HSN-Q.A.1
__/__/__		L9: Interpreting Exponential Functions	HSA-SSE.A, HSF-IF.A.2, HSF-IF.B.5, HSF-IF.C.7.e, HSF-LE.A.2
__/__/__		L10: Looking at Rates of Change	HSF-IF.B.6
__/__/__		L11: Modeling Exponential Behavior	HSF-BF.A.1, HSF-IF.A.2, HSF-IF.B.4, HSF-IF.B.5, HSF-LE.A.1, HSF-LE.A.1.c, HSF-LE.A.2, HSF-LE.B.5,

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			HSN-Q.A.1, HSN-Q.A.3, HSS-ID.B.6.a
___/___/___		L12: Reasoning about Exponential Graphs (Part 1)	HSF-IF.B.4, HSF-LE.B.5
___/___/___		L13: Reasoning about Exponential Graphs (Part 2)	HSF-IF.B.4, HSF-LE.A.2, HSF-LE.B.5
___/___/___	Mid-Unit Assessment		
___/___/___	Percent Growth & Decay	L14: Recalling Percent Change*	HSF-LE.A.2
___/___/___		L15: Functions Involving Percent Change	HSF-BF.A.1, HSF-BF.A.1.a, HSF-IF.B.6, HSF-IF.C.7.e, HSF-LE.A.2
___/___/___		L16: Compounding interest	HSF-BF.A.1.a
___/___/___		L17: Different Compounding Intervals	HSA-SSE.A, HSA-SSE.A.1, HSF-BF.A.1, HSF-BF.A.1.a, HSF-IF.A.2, HSF-LE.A.1, HSF-LE.A.2, HSF-LE.B.5, HSN-Q.A.2
___/___/___		L18: Expressed in Different Ways	HSA-SSE.A.1.b, HSA-SSE.B.3.c, HSF-IF.A.2, HSF-IF.C.8, HSF-IF.C.8.b
___/___/___	Comparing Linear & Exponential Functions	L19: Which One Changes Faster?	HSF-IF.A.2, HSF-IF.B.4, HSF-IF.B.5, HSF-LE.A.1, HSF-LE.A.2, HSF-LE.A.3
___/___/___		L20: Changes over Equal Intervals	HSF-LE.A.1.a, HSF-LE.A.1.b, HSF-LE.A.2
___/___/___	Putting It All Together	L21: Predicting Populations	HSF-LE.A.1, HSF-LE.A.1.b, HSF-LE.A.1.c, HSF-LE.A.2, HSN-Q.A.3, HSS-ID.B.6.a
___/___/___	End-Unit Assessment		

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Unit 6 – Introduction to Quadratic Functions

Date			Lesson	Standards
__/__/__	Pre-Unit Assessment			
__/__/__	A Different Kind of Change	L1: A Different Kind of Change		HSA-SSE.A.1, HSA-SSE.B.3, HSF-BF.A.1.a
__/__/__		L2: How Does it Change?		HSA-SSE.A.1, HSA-SSE.B.3, HSF-BF.A.1.a
__/__/__	Quadratic Functions	L3: Building Quadratic Functions from Geometric Patterns		HSA-SSE.A.1, HSF-BF.A.1.a, HSF-IF.A.2
__/__/__		L4: Comparing Quadratic & Exponential Functions		HSF-BF.A.1.a, HSF-IF.C, HSF-LE.A.3
__/__/__		L5: Building Quadratic Functions to Describe Situations (Part 1)		HSF-BF.A.1, HSF-BF.A.1.a, HSF-IF.A.2
__/__/__		L6: Building Quadratic Functions to Describe Situations (Part 2)		HSF-BF.A.1, HSF-BF.A.1.a, HSF-IF.B.5, HSF-IF.C, HSF-IF.C.7.a
__/__/__		L7: Building Quadratic Functions to Describe Situations (Part 3)		HSF-BF.A.1.a, HSF-IF.B.5, HSF-IF.C.7.a
__/__/__	Working with	L8: Equivalent Quadratic Expressions		HSA-SSE.A, HSA-SSE.A.2, HSA-SSE.B.3, HSF-IF.C.8
__/__/__		L9: Standard Form & Factored Form		HSA-SSE.A.2, HSA-SSE.B.3, HSF-IF.C.8

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//_	Quadratic Expressions	L10: Graphs of Functions in Standard & Factored Forms	HSA-SSE.B.3
//_	Mid-Unit Assessment		
//_	Features of Graphs of Quadratic Functions	L11: Graphing from the Factored Form	HSA-SSE.A, HSF-IF.C.7.a
//_		L12: Graphing from the Standard Form (Part 1)	HSF-BF.B.3, HSF-IF.C, HSF-IF.C.7, HSF-LE.A.2
//_		L13: Graphing from the Standard Form (Part 2)*	HSA-SSE.B.3, HSF-BF.B.3, HSF-IF.C.7, HSF-IF.C.7.a
//_		L14: Graphs That Represent Situations	HSF-IF.A.2, HSF-IF.C.7.a, HSF-IF.C.8, HSF-IF.C.9
//_		L15: Vertex Form	HSF-BF.B.3, HSF-IF.C, HSF-IF.C.7.a
//_		L16: Graphing from the Vertex Form	HSF-IF.C, HSF-IF.C.7.a
//_		L17: Changing the Vertex	HSF-BF.B.3, HSF-IF.C, HSF-IF.C.7.a
//_	End-Unit Assessment		

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Unit 7 – Quadratic Equations

Date		Lesson	Standards	
__/__/__	Pre-Unit Assessment			
__/__/__	Finding Unknown Inputs	L1: Finding Unknown Inputs	HSA-CED.A.1, HSA-CED.A.3	
__/__/__		L2: When & Why Do We Write Quadratic Equations?	HSA-CED.A.1, HSA-CED.A.2, HSA-REI.B.4, HSN-Q.A	
__/__/__	Solving Quadratic Equations	L3: Solving Quadratic Equations by Reasoning	HSA-REI.A.1, HSA-REI.B.4.b	
__/__/__		L4: Solving Quadratic Equations with Zero Product Property	HSA-CED.A.1, HSA-REI.B.4, HSA-REI.B.4.b, HSA-SSE.B.3	
__/__/__		L5: How Many Solutions?	HSA-REI.A.1, HSA-REI.B.4, HSA-REI.B.4.b, HSA-REI.D, HSA-REI.D.10	
__/__/__		L6: Rewriting Quadratic Expressions in Factored Form (Part 1)	HSA-REI.B.4.b, HSA-SSE.A.2, HSA-SSE.B.3.a	
__/__/__		L7: Rewriting Quadratic Expressions in Factored Form (Part 2)	HSA-REI.B.4.b, HSA-SSE.A.2, HSA-SSE.B.3.a	
__/__/__		L8: Rewriting Quadratic Expressions in Factored Form (Part 3)	HSA-REI.B.4.b, HSA-SSE.A.2, HSA-SSE.B.3.a	
__/__/__		L9: Solving Quadratic Equations by Using Factored Form	HSA-REI.B.4, HSA-REI.B.4.b, HSA-SSE.B.3.a	
__/__/__		L10: Rewriting Quadratic Expressions in Factored Form (Part 4)	HSA-REI.B.4.b, HSA-REI.D, HSA-SSE.A, HSA-SSE.A.2, HSA-SSE.B.3.a, HSF-IF.B.4	
__/__/__		Mid-Unit Assessment		
__/__/__		Completing the Square	L11: What are Perfect Squares?	HSA-REI.B.4.a, HSA-REI.B.4.b, HSA-SSE.A.2
__/__/__	L12: Completing the Square (Part 1)		HSA-REI.B.4.a, HSA-REI.B.4.b, HSA-SSE.A, HSA-SSE.A.2	
__/__/__	L13: Completing the Square (Part 2)		HSA-REI.A, HSA-REI.B.4.b	
__/__/__	L14: Completing the Square (Part 3)		HSA-REI.B.4.a, HSA-REI.B.4.b, HSA-SSE.A.2	
__/__/__	L15: Quadratic Equations with Irrational Solutions		HSA-REI.B.4.a, HSA-REI.B.4.b, HSA-REI.D, HSN-RN.B	
__/__/__	The	L16: The Quadratic Formula	HSA-REI.B.4.b, HSA-SSE.A	

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//_	Quadratic Formula	L17: Applying the Quadratic Formula (Part 1)	HSA-CED.A.1, HSA-REI.A, HSA-REI.B.4, HSA-REI.B.4.b, HSF-IF.B.5
//_		L18: Applying the Quadratic Formula (Part 2)	HSA-CED.A.1, HSA-REI.B.4.b, HSF-IF.A.2
		L19: Deriving the Quadratic Formula	HSA-REI.B.4.a, HSA-SSE.A.2
		L20: Rational & Irrational Solutions	HSA-REI.B.4.b, HSF-IF.C.7.a, HSN-RN.B.3
		L21: Sums & Products of Rationals & Irrational Numbers	HSA-REI.B.4.b, HSN-RN.B, HSN-RN.B.3
	Vertex Form Revisited	L22: Rewriting Quadratic Expressions in Vertex Form	HSA-SSE.A.2, HSA-SSE.B.3, HSA-SSE.B.3.b, HSF-IF.C
		L23: Using Quadratic Expressions in Vertex Form to Solve Problems	HSA-SSE.B.3.b, HSF-IF.C, HSF-IF.C.9
	Putting It All Together	L24: Using Quadratic Equations to Model Situations & Solve Problems	HSA-REI.B.4.b, HSA-REI.C.7, HSF-IF.C.8.a
//_	End-Unit Assessment		

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Modeling Prompts

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MODELING PROMPT 1

Modeling Prompt 0

Use after Unit 1, Lesson 1

MODELING PROMPT 2

Display Your Data

Use after Unit 1, Lesson 15

- HSS-ID.A.1
- HSS-ID.A.2
- HSS-ID.A.3

MODELING PROMPT 3

College Characteristics

Use after Unit 3, Lesson 9

- HSS-ID.A
- HSS-ID.B.5
- HSS-ID.B.6
- HSS-ID.C.7
- HSS-ID.C.8
- HSS-ID.C.9

MODELING PROMPT 4

Critically Examining National Debt

Use after Unit 5, Lesson 17

- HSF-BF.A.1
- HSF-LE.A.1
- HSF-LE.A.2
- HSF-LE.B.5