

Algebra 1 – Unit 4 – Revised ELL Scaffold

	Student Learning Objective (SLO)		Language Objective		Language Needed
SLO: 1 CCSS: A.APR.3 WIDA ELDS: 3 Reading Writing Speaking	Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.		<u>Explain</u> how to determine and use the zeros of a polynomial to sketch the function <i>using</i> Sentence Frames, Teacher Modeling, <i>and</i> Think Alouds.		VU: Polynomial, factorization, rough
					LFC: Past tense verbs, transitional phrases, ordinal numbers
					LC: Varies by ELP level
	ELP 1	ELP 2	ELP 3	ELP 4	ELP 5
Language Objectives	Explain how to determine and use the zeros of a polynomial to sketch the function in L1 and/or use words, phrases, and gestures to explain the process.	Explain how to determine and use the zeros of a polynomial to sketch the function in L1 and/or use selected academic vocabulary in phrases and short sentences to explain the process.	Explain how to determine and use the zeros of a polynomial to sketch the function using key academic vocabulary in simple sentences.	Explain how to determine and use the zeros of a polynomial to sketch the function using key vocabulary in expanded sentences.	Explain how to determine and use the zeros of a polynomial to sketch the function using academic vocabulary in complex sentences.
Learning Supports	Think Alouds Teacher Modeling Multiple Resources Adapted Text Word Bank Gestures Cloze Sentences Visuals Native language support	Think Alouds Teacher Modeling Sentence Frame Multiple Resources Adapted Text Word/Phrase Bank Visuals Native language support	Think Alouds Teacher Modeling Template	Think Alouds Teacher Modeling	Think Alouds

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	Student Learning Objective (SLO)		Language Objective		Language Needed
SLO: 2 CCSS: N.RN.3 WIDA ELDS: 3 Reading Writing Speaking	Use the properties of rational and irrational numbers to explain why the sum or product of two rational numbers is rational, the sum of a rational number and an irrational number is irrational, and the product of a nonzero rational number and an irrational number is irrational.		<u>Describe and explain</u> the reasons why a sum or product of two rational numbers is rational, why the sum of a rational and an irrational is irrational, and why the product of a nonzero rational number and an irrational number is irrational <i>using</i> Note Cards, Visuals, <i>and a</i> Checklist.		VU: Rational, irrational, sum, nonzero
					LFC: Transitional phrases, ordinal numbers, present progressive tense, adverbs
					LC: Varies by ELP level
	ELP 1	ELP 2	ELP 3	ELP 4	ELP 5
Language Objectives	Describe and explain the reasons why sum or product of two rational numbers is rational, why the sum of a rational and an irrational is irrational, and why the product of a nonzero rational number and an irrational number is irrational in L1 and/or use words, phrases, and gestures to describe reasons.	Describe and explain the reasons why sum or product of two rational numbers is rational, why the sum of a rational and an irrational is irrational, and why the product of a nonzero rational number and an irrational number is irrational in L1 and/or use selected academic vocabulary in phrases and short sentences to describe reasons.	Describe and explain the reasons why sum or product of two rational numbers is rational, why the sum of a rational and an irrational is irrational, and why the product of a nonzero rational number and an irrational number is irrational using key, academic vocabulary in simple sentences.	Describe and explain the reasons why sum or product of two rational numbers is rational, why the sum of a rational and an irrational is irrational, and why the product of a nonzero rational number and an irrational number is irrational using key, academic vocabulary in expanded sentences.	Describe and explain the reasons why sum or product of two rational numbers is rational, why the sum of a rational and an irrational is irrational, and why the product of a nonzero rational number and an irrational number is irrational using precise vocabulary in complex sentences.
Learning Supports	Note Cards Visuals Checklist Adapted Text Charts/Posters Teacher Support Word Bank Gestures	Note Cards Visuals Checklist Adapted Text Charts/Posters Teacher Support Word/Phrase Bank	Note Cards Visuals Checklist	Note Cards Visuals	Note Cards

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	Student Learning Objective (SLO)		Language Objective		Language Needed
SLO: 3 CCSS: F.IF.4, F.IF.5 , F.1F.7 WIDA ELDS: 3 Reading Writing Speaking	Sketch the graph of a function that models a relationship between two quantities (expressed symbolically or from a verbal description) showing key features (including intercepts, minimums/maximums, domain, and rate of change) by hand in simple cases and using technology in more complicated cases and relate the domain of the function to its graph. ★		<u>Demonstrate comprehension</u> of a function that models a relationship between two quantities (expressed symbolically or from a verbal description) by sketching the graph of the function showing key features by hand and with technology <i>using a Cloze Sentences, Visuals, and Partner work.</i>		VU: Sketch, key, features, domain, function
					LFC: Transitional phrases, ordinal numbers, imperatives
					LC: Varies by ELP level
	ELP 1	ELP 2	ELP 3	ELP 4	ELP 5
Language Objectives	Demonstrate comprehension of written problems in L1 and/or use Pictures and selected vocabulary by sketching the graph of a function that models a relationship between two quantities showing key features.	Demonstrate comprehension of written problems in L1 and/or use selected technical vocabulary in phrases and short sentences by sketching the graph of a function that models a relationship between two quantities showing key features.	Demonstrate comprehension of written problems which use key vocabulary in simple sentences by sketching the graph of a function that models a relationship between two quantities showing key features.	Demonstrate comprehension of written problems which use key, technical vocabulary in expanded sentences by sketching the graph of a function that models a relationship between two quantities showing key features.	Demonstrate comprehension of written problems which use precise vocabulary in complex sentences by sketching the graph of a function that models a relationship between two quantities showing key features.
Learning Supports	Visuals Partner work Cloze Sentences Checklist L1 text and/or support Word Bank Multiple Resources	Visuals Partner work Checklist L1 text and/or support Sentence Frame Word/Phrase Bank Multiple Resources	Visuals Partner work Multiple Resources	Visuals Partner work	Visuals

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	Student Learning Objective (SLO)		Language Objective		Language Needed
SLO: 4 CCSS: F.IF.9 WIDA ELDS: 3 Reading Writing Speaking Listening	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.		<u>Compare and contrast</u> orally and in writing properties of two functions each represented in a different way <i>using</i> Charts/Posters, a Venn Diagram, and Sentence Frame.		VU: Algebraically, graphically, numerically, tables
					LFC: Comparatives, superlatives, specific to word problem (oral or written)
					LC: Varies by ELP level
	ELP 1	ELP 2	ELP 3	ELP 4	ELP 5
Language Objectives	Compare and contrast orally and in writing properties of two functions each represented in a different way in L1 and/or use words and phrases to complete a Venn Diagram.	Compare and contrast orally and in writing properties of two functions each represented in a different way in L1 and/or use selected technical vocabulary in phrases and short sentences to complete a Venn Diagram.	Compare and contrast orally and in writing properties of two functions each represented in a different way using key, technical vocabulary in simple sentences.	Compare and contrast properties orally and in writing of two functions each represented in a different way using key, technical vocabulary in expanded sentences.	Compare and contrast orally and in writing properties of two functions each represented in a different way using precise vocabulary in complex sentences.
Learning Supports	Venn Diagram Partner work Charts/Posters Word Bank Cloze Sentences Pictures and Photographs Native language explanations	Venn Diagram Charts/Posters Word/Phrase Bank Sentence Frame Peer Coach L1 text and/or support	Venn Diagram Charts/Posters	Venn Diagram Charts/Posters	Venn Diagram

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	Student Learning Objective (SLO)		Language Objective		Language Needed
SLO: 5 CCSS: F.IF.6, WIDA ELDS: 3 Reading Writing Speaking	Calculate (over a specified period if presented symbolically or as a table) or estimate (if presented graphically) and interpret the average rate of change of a function. ★		<u>Summarize</u> how to calculate (over a specified period if presented symbolically or as a table), estimate (if presented graphically), and interpret the average rate of change of a function <i>using</i> Sentence Starter, Sentence Frame, <i>and</i> a <u>Cloze Sentences</u> .		VU: Calculate, estimate, interpret <hr/> LFC: Modals (would, could, might), compound tenses (would have been) <hr/> LC: Varies by ELP level
	ELP 1	ELP 2	ELP 3	ELP 4	ELP 5
	Language Objectives	Summarize how to calculate, estimate, and interpret the average rate of change of a function in L1 and/or use words, phrases, and Gestures to summarize the process.	Summarize how to calculate, estimate, and interpret the average rate of change of a function in L1 and/or use selected technical vocabulary in phrases and short sentences.	Summarize how to calculate, estimate, and interpret the average rate of change of a function using key vocabulary in simple sentences.	Summarize how to calculate, estimate, and interpret the average rate of change of a function using key, technical vocabulary in expanded sentences.
Learning Supports	Peer Coach Cloze Sentences Word Bank Small group Charts/Posters L1 text and/or support Pictures and Photographs/illustrations	Peer Coach Sentence Frame Word/Phrase Bank Small group Charts/Posters L1 text and/or support	Peer Coach Sentence Starter Multiple Resources	Peer Coach Sentence Starter	Peer Coach

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	Student Learning Objective (SLO)		Language Objective		Language Needed
SLO: 6 CCSS: F.IF. 8a WIDA ELDS: 3 Reading Writing Speaking	Write functions in different but equivalent forms by translating quadratic expressions using methods such as factoring and completing the square to show zeros, extreme values, and symmetry of the graph; interpret these in terms of a context		<u>Explain</u> how to write functions in different but equivalent forms by translating quadratic expressions using various methods such as factoring and completing the square to show zeros, extreme values and symmetry <i>using</i> Note Cards , Teacher Modeling , and Think Alouds .		VU: Equivalent, factoring, completing the square
					LFC: Past tense verbs, transitional phrases, ordinal numbers
					LC: Varies by ELP level
	ELP 1	ELP 2	ELP 3	ELP 4	ELP 5
Language Objectives	<u>Explain</u> how to write functions in different but equivalent forms by translating quadratic expressions using various methods such as factoring and completing the square to show zeros, extreme values and symmetry in L1 and/or use selected words and phrases.	<u>Explain</u> how to write functions in different but equivalent forms by translating quadratic expressions using various methods such as factoring and completing the square to show zeros, extreme values and symmetry in L1 and/or use selected academic vocabulary in phrases and short sentences to retell the process.	<u>Explain</u> how to write functions in different but equivalent forms by translating quadratic expressions using various methods such as factoring and completing the square to show zeros, extreme values and symmetry using key, academic vocabulary in simple sentences.	<u>Explain</u> how to write functions in different but equivalent forms by translating quadratic expressions using various methods such as factoring and completing the square to show zeros, extreme values and symmetry using key, academic vocabulary in expanded sentences.	<u>Explain</u> how to write functions in different but equivalent forms by translating quadratic expressions using various methods such as factoring and completing the square to show zeros, extreme values and symmetry using precise vocabulary in complex sentences.
Learning Supports	Think Alouds Teacher Modeling Note Cards Adapted Text Word Bank Gestures Cloze Sentences Visuals Native language support	Think Alouds Teacher Modeling Note Cards Adapted Text Word/Phrase Bank Sentence Frame Visuals Native language support	Think Alouds Teacher Modeling Note Cards	Think Alouds Teacher Modeling	Think Alouds

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	Student Learning Objective (SLO)		Language Objective		Language Needed
SLO: 7 CCSS: F.BF.1, F.LE.1, F.LE.2 WIDA ELDS: 3 Reading Writing Speaking	Write a function that describes a linear, quadratic or exponential relationship (e.g. growth/decay and arithmetic and geometric sequences) from graphs, tables, or a written description of the relationship, recursively and with an explicit formula, and describe how quantities increase over equal intervals; relate these functions to the model. ★		<u>Describe</u> how quantities increase over equal intervals across linear, quadratic, and exponential relationships <i>using</i> Visuals, Sentence Frame, <i>and</i> Gestures.		VU: Explicit, recursive, linear, quadratic
					LFC: Transitional phrases, ordinal numbers, present progressive tense, adverbs
					LC: Varies by ELP level
	ELP 1	ELP 2	ELP 3	ELP 4	ELP 5
Language Objectives	Describe how quantities increase over equal intervals across linear, quadratic, and exponential relationships in L1	Describe how quantities increase over equal intervals across linear, quadratic, and exponential relationships in L1 and/or use selected academic vocabulary in phrases and short sentences.	Describe how quantities increase over equal intervals across linear, quadratic, and exponential relationships using key vocabulary in simple sentences.	Describe how quantities increase over equal intervals across linear, quadratic, and exponential relationships using key academic vocabulary in expanded sentences.	Describe how quantities increase over equal intervals across linear, quadratic, and exponential relationships using precise vocabulary in complex sentences.
Learning Supports	Visuals Cloze Sentences Gestures Partner work Teacher Support Word/Phrase Bank Checklist Native language support	Visuals Sentence Frame Partner work Teacher Support Word/Phrase Bank Checklist Native language support	Visuals Sentence Frame Partner work Teacher Support	Visuals Teacher Support	Visuals

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	Student Learning Objective (SLO)		Language Objective		Language Needed
SLO: 8 CCSS: F.BF.3 WIDA ELDS: 3 Reading Writing Speaking	Identify the effects of translations $[f(x) + k, k f(x), f(kx),$ and $f(x + k)]$ on a function and find the value of k given the graphs.		<u>Explain</u> the effects of translations $[f(x) = k, kf(x), f(kx)$ and $f(x + k)]$ on a function and how to find the value of a k given the graphs <i>using Partner work, multiple resources, and a Checklist.</i>		VU: Translations, identify, value <hr/> LFC: Transitional phrases, ordinal numbers, imperatives <hr/> LC: Varies by ELP level
	ELP 1	ELP 2	ELP 3	ELP 4	ELP 5
	Language Objectives	Explain the effects of translations $[f(x) = k, kf(x), f(kx)$ and $f(x + k)]$ on a function and how to find the value of a k given the graphs in L1	Explain the effects of translations $[f(x) = k, kf(x), f(kx)$ and $f(x + k)]$ on a function and how to find the value of a k given the graphs in L1 and/or use selected technical vocabulary in phrases and short sentences.	Explain the effects of translations $[f(x) = k, kf(x), f(kx)$ and $f(x + k)]$ on a function and how to find the value of a k given the graphs using key, academic vocabulary in simple sentences.	Explain the effects of translations $[f(x) = k, kf(x), f(kx)$ and $f(x + k)]$ on a function and how to find the value of a k given the graphs using key, academic vocabulary in expanded sentences.
Learning Supports	Partner work Visuals Checklist Adapted Text Cloze Sentences Word Bank Multiple Resources L1 text and/or support	Partner work Visuals Checklist Adapted Text Sentence Frame Word/Phrase Bank Multiple Resources L1 text and/or support	Partner work Visuals Multiple Resources	Partner work Visuals	Partner work

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	Student Learning Objective (SLO)		Language Objective		Language Needed
SLO: 9 CCSS: F.LE.3 , F.LE.5 WIDA ELDS: 3 Reading Speaking Writing	Compare (using graphs and tables) linear, quadratic, and exponential models to determine that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function; interpret parameters in terms of a context.		<u>Compare and contrast</u> linear, quadratic and exponential models to determine that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or as a polynomial function, include interpretation of parameters in terms of context <i>using a Venn Diagram and Partner work.</i>		VU: Linear, quadratic, exponential, parameters
					LFC: Comparatives, superlatives, specific to word problem (oral or written)
					LC: Varies by ELP level
	ELP 1	ELP 2	ELP 3	ELP 4	ELP 5
Language Objectives	Compare and contrast various models to determine that a quantity increasing exponentially eventually exceeds a quantity increasing as a polynomial function in L1 and/or use selected words and phrases to complete a Venn Diagram.	Compare and contrast various models to determine that a quantity increasing exponentially eventually exceeds a quantity increasing as a polynomial function in L1 and/or use selected academic vocabulary in phrases and short sentences.	Compare and contrast various models to determine that a quantity increasing exponentially eventually exceeds a quantity increasing as a polynomial function using key vocabulary in simple sentences.	Compare and contrast various models to determine that a quantity increasing exponentially eventually exceeds a quantity increasing as a polynomial function using key academic vocabulary in expanded sentences.	Compare and contrast various models to determine that a quantity increasing exponentially eventually exceeds a quantity increasing as a polynomial function using precise vocabulary in complex sentences.
Learning Supports	Venn Diagram Partner work Charts/Posters Word Bank Pictures and Photographs L1 text and/or support	Venn Diagram Partner work Charts/Posters Word/Phrase Bank Peer Coach L1 text and/or support	Venn Diagram Partner work Charts/Posters	Venn Diagram Partner work	Venn Diagram