Algebra II – Unit 3 – ELL Scaffold

	Student Learning Objective (SLO)		Language Objective		Language Needed
SLO: 1 CCSS: A.REI.11 WIDA ELDS: 3 Listening Reading Writing Speaking	Find approximate solutions for the intersections of functions and explain why the x-coordinates of the points where the graphs of the equations y = f(x) and y = g(x) intersect are the solutions of the equation f(x) = g(x) involving linear, polynomial, rational, absolute value, and exponential functions.		After finding approximate solutions for the intersections of functions explain orally why the x-coordinates of the points where the graphs of the equations y= f(x) and y = g(x) intersect are the solutions of the equation f(x) = g(x) *using word walls, white board and small group.*		**VU:** Function, intersections, x-coordinates, linear, polynomial, rational, absolute value, exponential **LFC:** Imperative, present tense **LC:** Varies by ELP level
	ELP 1	ELP 2	ELP 3	ELP 4	ELP 5
Language Objectives	After finding approximate solutions for the intersections of functions explain orally why the x-coordinates are the solutions of the equation f(x) = g(x) in L1 and/or use drawings, and selected technical words.	After finding approximate solutions for the intersections of functions explain orally why the x-coordinates are the solutions of the equation f(x) = g(x) in L1 and/or use selected technical vocabulary in phrases and short sentences.	After finding approximate solutions for the intersections of functions explain orally why the x-coordinates are the solutions of the equation f(x) = g(x) using key, technical vocabulary in a series of simple sentences.	After finding approximate solutions for the intersections of functions explain orally why the x-coordinates are the solutions of the equation f(x) = g(x) using key, technical vocabulary in expanded sentences.	After finding approximate solutions for the intersections of functions explain orally why the x-coordinates are the solutions of the equation f(x) = g(x) using technical vocabulary in complex sentences.
Learning Supports	White Board Math Journal Small group Word/picture wall L1 text and/or support Pictures/illustrations	White Board Math Journal Small group Word/picture wall L1 text and/or support Sentence Frame	White Board Math Journal Small group Word wall	White Board Math Journal Small group	White Board Math Journal

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	Student Learning Objective (SLO)	Language Objective	Language Needed
SLO: 2 CCSS: F.BF.2 WIDA ELDS: 1 & 3 Listening Reading Writing	Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.★	After listening to an oral explanation demonstrate comprehension of how to write arithmetic and geometric sequences both recursively and with an explicit formula, and use them to model situations, and translate between the two forms *using* Teacher Modeling, Math Journal, Word wall *and* Small group.	**VU:** Formula, recursive rule, explicit rule, preceding, geometric sequence **LFC:** Present tense **LC:** Varies by ELP level

	ELP 1	ELP 2	ELP 3	ELP 4	ELP 5
Language Objectives	After listening to an oral explanation in L1, demonstrate comprehension of arithmetic and geometric sequences both recursively and with an explicit formula and/or an explanation which uses drawings and selected technical words.	After listening to an oral explanation in L1, demonstrate comprehension of arithmetic and geometric sequences both recursively and with an explicit formula and/or an explanation which uses selected technical vocabulary in phrases and short sentences.	After listening to an oral explanation which includes key, technical vocabulary in simple sentences, demonstrate comprehension of arithmetic and geometric sequences both recursively and with an explicit formula.	After listening to an oral explanation which includes key, technical vocabulary in expanded sentences, demonstrate comprehension of arithmetic and geometric sequences both recursively and with an explicit formula.	After listening to an oral explanation which includes technical vocabulary in complex sentences, demonstrate comprehension of arithmetic and geometric sequences both recursively and with an explicit formula.
Learning Supports	Teacher Modeling Math Journal Small group Word/picture wall L1 text and/or support Pictures/illustrations	Teacher Modeling Math Journal Small group Word/picture wall L1 text and/or support Sentence Frame	Teacher Modeling Math Journal Small group Word wall	Teacher Modeling Math Journal Small group	Teacher Modeling Math Journal

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	Student Learning Objective (SLO)	Language Objective	Language Needed
SLO: 3 CCSS: F.BF.4 WIDA ELDS: 1 & 3 Reading Listening Writing	Determine the inverse function for a simple function that has an inverse and write an expression for it.	After listening to an oral explanation and reading the directions, demonstrate comprehension of the inverse function for a simple function that has an inverse and write an expression for it *using* Teacher Modeling*, a* Math Journal*, a* Word wall *and* Sentence Frame*s.*	**VU:** Expression, inverse function **LFC:** If clause, conditional, present tense **LC:** Varies by ELP level

	ELP 1	ELP 2	ELP 3	ELP 4	ELP 5
Language Objectives	After listening to an oral explanation and reading the directions in L1, and/or using drawings and selected technical words, demonstrate comprehension of the inverse function for a simple function that has an inverse and write an expression for it.	After listening to an oral explanation and reading the directions in L1, and/or using selected technical vocabulary in phrases, demonstrate comprehension of the inverse function for a simple function that has an inverse and write an expression for it.	After listening to an oral explanation and reading the directions which have key vocabulary in simple sentences, demonstrate comprehension of the inverse function for a simple function that has an inverse and write an expression for it.	After listening to an oral explanation and reading the directions which have key vocabulary in expanded sentences, demonstrate comprehension of the inverse function for a simple function that has an inverse and write an expression for it.	After listening to an oral explanation and reading the directions which have technical vocabulary in complex sentences, demonstrate comprehension of the inverse function for a simple function that has an inverse and write an expression for it.
Learning Supports	Teacher Modeling Math Journal Small group Word/picture wall L1 text and/or support Pictures/illustrations	Teacher Modeling Math Journal Small group Word/picture wall L1 text and/or support Sentence Frame	Teacher Modeling Math Journal Small group Word wall	Teacher Modeling Math Journal Small group	Teacher Modeling Math Journal

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	Student Learning Objective (SLO)		Language Objective		Language Needed
SLO: 4 CCSS: F.IF.4 F.IF.7 WIDA ELDS: 3 Reading Listening Writing	Graph functions expressed symbolically and show key features of the graph (including intercepts, intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity) by hand in simple cases and using technology for more complicated cases. ★		Demonstrate comprehension of graphing functions expressed symbolically by hand in simple cases and using technology for more complicated cases and show key features of the graph *using* Math Journal, Sentence Frames *and* Small group.		**VU:** intercepts, intervals, symmetries, end behavior, periodicity, coordinate plane **LFC:** Wh- questions, present tense **LC:** Varies by ELP level
	ELP 1	ELP 2	ELP 3	ELP 4	ELP 5
Language Objectives	Demonstrate comprehension of complex questions in L1 and/or simplified questions with drawings and selected technical words concerning graphing functions symbolically by showing key features of the graph by hand in simple cases and using technology for more complicated cases.	Demonstrate comprehension of complex questions in L1 and/or simplified questions with selected vocabulary in phrases and short sentences concerning graphing functions symbolically by showing key features of the graph by hand in simple cases and using technology for more complicated cases.	Demonstrate comprehension of simple questions with key technical vocabulary concerning graphing functions symbolically by showing key features of the graph by hand in simple cases and using technology for more complicated cases.	Demonstrate comprehension of some complex questions with key technical vocabulary concerning graphing functions symbolically by showing key features of the graph by hand in simple cases and using technology for more complicated cases.	Demonstrate comprehension of complex questions with technical vocabulary concerning graphing functions symbolically by showing key features of the graph by hand in simple cases and using technology for more complicated cases.
Learning Supports	Teacher Modeling Math Journal Small group Word/picture wall L1 text and/or support Pictures/illustrations	Teacher Modeling Math Journal Small group Word/picture wall L1 text and/or support Sentence Frames	Teacher Modeling Math Journal Small group Word wall	Teacher Modeling Math Journal Small group	Teacher Modeling Math Journal

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	Student Learning Objective (SLO)	Language Objective	Language Needed
SLO: 5 CCSS: F.LE.5 WIDA ELDS: 3 Speaking Writing Reading	Interpret the parameters in a linear or exponential function in terms of a context.	Interpret orally and in writing the parameters in a linear or exponential function in terms of a context *using* Word wall, Charts, Math Journal *and* Small group.	**VU:** Parameters, linear, exponential function **LFC:** present tense, future tense **LC:** Varies by ELP level

	ELP 1	ELP 2	ELP 3	ELP 4	ELP 5
Language Objectives	Interpret orally and in writing the parameters in a linear or exponential function in terms of a context the parameters in a linear or exponential function in terms of a context in L1 and/or use gestures, pictures and selected, technical words.	Interpret orally and in writing the parameters in a linear or exponential function in terms of a context the parameters in a linear or exponential function in terms of a context in L1 and/or use selected technical vocabulary in phrases and short sentences.	Interpret orally and in writing the parameters in a linear or exponential function in terms of a context the parameters in a linear or exponential function in terms of a context using key vocabulary in simple sentences.	Interpret orally and in writing the parameters in a linear or exponential function in terms of a context the parameters in a linear or exponential function in terms of a context using key technical vocabulary in expanded sentences.	Interpret orally and in writing the parameters in a linear or exponential function in terms of a context the parameters in a linear or exponential function in terms of a context using technical vocabulary in complex sentences.
Learning Supports	Charts Math Journal Small group Word/picture wall L1 text and/or support Pictures/illustrations	Charts Math Journal Small group Word/picture wall L1 text and/or support Sentence Frame	Charts Math Journal Small group Word wall	Charts Math Journal Small group	Charts Math Journal

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	Student Learning Objective (SLO)	Language Objective	Language Needed
SLO: 6 CCSS: F.TF.1 WIDA ELDS: 3 Speaking Reading Writing	Uses the radian measure of an angle to find the length of the arc in the unit circle subtended by the angle and find the measure of the angle given the length of the arc.	Demonstrate comprehension of how use the radian measure of an angle to find the length of the arc in the unit circle and how to find the measure of the angle given the length of the arc *using* Visuals*, demonstrations, a* Word wall*, and a* Small group.	**VU:** Radian measure, angle, arc, degrees, radius, cord, semicircle **LFC:** Present tense **LC:** Varies by ELP level

	ELP 1	ELP 2	ELP 3	ELP 4	ELP 5
Language Objectives	Demonstrate comprehension of complex word problems in L1 and/or problems with Visuals and selected technical words by answering questions in writing using the radian measure of an angle to find the length of the arc in the unit circle and finding the measure of the angle given the length of the arc.	Demonstrate comprehension of complex word problems in L1 and/or problems with Visuals and selected technical vocabulary in phrases and short sentences by answering questions in writing using the radian measure of an angle to find the length of the arc in the unit circle and finding the measure of the angle given the length of the arc.	Demonstrate comprehension of simple word problems with key technical vocabulary by answering questions in writing using the radian measure of an angle to find the length of the arc in the unit circle and finding the measure of the angle given the length of the arc.	Demonstrate comprehension of some complex word problems with key, technical vocabulary by answering questions in writing using the radian measure of an angle to find the length of the arc in the unit circle and finding the measure of the angle given the length of the arc.	Demonstrate comprehension of complex word problems with technical vocabulary by answering questions in writing using the radian measure of an angle to find the length of the arc in the unit circle and finding the measure of the angle given the length of the arc.
Learning Supports	Demonstrations Visuals Small group Word/picture wall L1 text and/or support Pictures/illustrations	Demonstrations Visuals Small group Word/picture wall L1 text and/or support Sentence Frame	Demonstrations Visuals Small group Word wall	Demonstrations Visuals Small group	Demonstrations

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	Student Learning Objective (SLO)	Language Objective	Language Needed
SLO: 7 CCSS: F.TF.1 WIDA ELDS: Reading Listening Speaking Writing	Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers(interpreted as radian measures of angles traversed counterclockwise around the unit circle) and use the Pythagorean identity (sin θ)2+ (cos θ)2= 1 to find sin θ , cos θ , or tan θ , given sin θ , cos θ , or tan θ , and the quadrant of the angle.	Explain orally and in writing how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers and use the Pythagorean identity to find sin θ , cos θ , or tan θ , given sin θ , cos θ , or tan θ , and the quadrant of the angle *using demonstrations,* Charts*,* Sentence Frames*, and* Word walls.	**VU:** Pythagorean theorem, trigonometric functions, radian measures of angles **LFC:** If clause, conditional tense, present tense **LC:** Varies by ELP level

	ELP 1	ELP 2	ELP 3	ELP 4	ELP 5
Language Objectives	Explain orally and in writing how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers and use the Pythagorean identity to find sin θ , cos θ , or tan θ , given sin θ , cos θ , or tan θ , and the quadrant of the angle in L1 and/or use gestures, pictures and selected, technical words.	Explain orally and in writing how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers and use the Pythagorean identity (to find sin θ , cos θ , or tan θ , given sin θ , cos θ , or tan θ , and the quadrant of the angle in L1 and/or use selected technical vocabulary in phrases and short sentences.	Explain orally and in writing how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers and use the Pythagorean identity to find sin θ , cos θ , or tan θ , given sin θ , cos θ , or tan θ , and the quadrant of the angle using key, technical vocabulary in simple sentences.	Explain orally and in writing how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers and use the Pythagorean identity to find sin θ , cos θ , or tan θ , given sin θ , cos θ , or tan θ , and the quadrant of the angle using key technical vocabulary in expanded sentences.	Explain orally and in writing how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers and use the Pythagorean identity to find sin θ , cos θ , or tan θ , given sin θ , cos θ , or tan θ , and the quadrant of the angle using technical vocabulary in complex sentences.
Learning Supports	Demonstrations Charts Word/picture wall L1 text and/or support Pictures/illustrations	Demonstrations Charts Word/picture wall L1 text and/or support Sentence Frame	Demonstrations Charts Small group Word wall Sentence starter	Demonstrations Charts	Demonstrations

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	Student Learning Objective (SLO)		Language Objective		Language Needed
SLO: 8 CCSS: F.TF.5 WIDA ELDS: 3 Reading Listening	Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline. ★		Demonstrate understanding of how to choose the correct function to model periodic phenomena with specified amplitude, frequency and midline *using* Math Journal, Small group, *and online support (dictionaries,* Visuals, *tutorials)*		**VU:** Trigonometric, periodic phenomena, amplitude, frequency, midline, oscillation **LFC:** Present tense, if clauses, conditional tense **LC:** Varies by ELP level
	ELP 1	ELP 2	ELP 3	ELP 4	ELP 5
Language Objectives	Demonstrate understanding of oral explanations and written word problems in L1 and/or problems with Visuals and selected technical words of trigonometric functions by choosing the correct function to model periodic phenomena with specified amplitude, frequency and midline.	Demonstrate understanding of oral explanations and written word problems in L1 and/or problems with selected technical vocabulary in phrases of trigonometric functions by choosing the correct function to model periodic phenomena with specified amplitude, frequency and midline.	Demonstrate understanding of simple oral explanations and written word problems with key, technical vocabulary of trigonometric functions by choosing the correct function to model periodic phenomena with specified amplitude, frequency and midline.	Demonstrate understanding of oral explanations and some complex written word problems with key, technical vocabulary of trigonometric functions by choosing the correct function to model periodic phenomena with specified amplitude, frequency and midline.	Demonstrate understanding of complex oral explanations and written word problems with technical vocabulary of trigonometric functions by choosing the correct function to model periodic phenomena with specified amplitude, frequency and midline.
Learning Supports	White Board Math Journal Online support Small group Word/picture wall L1 text and/or support Pictures/illustrations	White Board Math Journal Online support Small group Word/picture wall L1 text and/or support Sentence Frame	White Board Math Journal Online support Word wall	White Board Math Journal Online support	White Board Math Journal