

## Grade Level Summary

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Module 1: Expressions, Equations, and Inequalities

Module Title	Message	Assignment / Call to Action (200 Character Max)	Content Directions	Resource / URL	Alternative to IOS or Notes
<b>Module 1: Expressions, Equations, and Inequalities</b>	<p>In this module, you will investigate the complex number system, operations with expressions, and solving equations and inequalities for a variety of functions. These functions include absolute value, quadratic, polynomial, rational, radical, exponential, and logarithmic. You will explore real-world applications for these function families.</p> <p>Focus Standards Addressed in this Module  <a href="#">CC.2.1.HS.F.2</a> - Apply properties of rational and irrational numbers to solve real world or mathematical problems.  <a href="#">CC.2.1.HS.F.6</a> - Extend the knowledge of arithmetic operations and apply to complex numbers.  <a href="#">CC.2.1.HS.F.7</a> - Apply concepts of complex numbers in polynomial identities and quadratic equations to solve problems.  <a href="#">CC.2.2.HS.D.1</a> - Interpret the structure of expressions to represent a quantity in terms of its context.  <a href="#">CC.2.2.HS.D.2</a> - Write expressions in equivalent forms to solve problems.  <a href="#">CC.2.2.HS.D.3</a> - Extend the knowledge of arithmetic operations and apply to polynomials.  <a href="#">CC.2.2.HS.D.4</a> - Understand the relationship between zeros and factors of polynomials to make generalizations about functions and their graphs.  <a href="#">CC.2.2.HS.D.9</a> - Use reasoning to solve equations and justify the solution method.</p> <p>SUGGESTED APPS FOR CAPTURING NOTES: Notability (\$2.99) OR PaperPort (FREE).</p> <p>SUGGESTED APPS FOR CREATING PRESENTATIONS: ShowMe (FREE).</p>				
<b>Exploring Absolute Value Equations</b>	In this lesson, students will explore absolute value equations.	DISCOVER how to solve an absolute value equation.		<a href="http://www.mathwarehouse.com/absolute-value/how-to-solve-absolute-value-equation.php">http://www.mathwarehouse.com/absolute-value/how-to-solve-absolute-value-equation.php</a>	
		INVESTIGATE solving equations with two absolute value expressions and SUMMARIZE the process in your notes.		<a href="http://patrickjmt.com/solving-absolute-value-equations-ex-2/">http://patrickjmt.com/solving-absolute-value-equations-ex-2/</a>	
		SOLVE absolute value equations.	Complete IXL Activities Algebra 1 L.1 and L.2	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-1/solve-absolute-value-equations">https://www.ixl.com/math/algebra-1/solve-absolute-value-equations</a>
					<a href="https://www.ixl.com/math/algebra-1/graph-solutions-to-absolute-value-equations">https://www.ixl.com/math/algebra-1/graph-solutions-to-absolute-value-equations</a>
		CHECK your understanding of solving simple absolute value equations.		<a href="https://brainiacgenie.ck12.org/skills/106659">https://brainiacgenie.ck12.org/skills/106659</a>	Teacher can create a class with students in order to view data about student performance
		SOLVE complicated absolute value equations.		<a href="https://brainiacgenie.ck12.org/skills/106660">https://brainiacgenie.ck12.org/skills/106660</a>	Teacher can create a class with students in order to view data about student performance
<b>Exploring Absolute Value Inequalities</b>	In this lesson, students will explore absolute value inequalities.	INVESTIGATE how to solve an example of an absolute value inequality and SUMMARIZE the process in your notes. (1 of 3)		<a href="http://patrickjmt.com/solving-absolute-value-inequalities-ex-1/">http://patrickjmt.com/solving-absolute-value-inequalities-ex-1/</a>	
		INVESTIGATE how to solve an example of an absolute value inequality and SUMMARIZE the process in your notes. (2 of 3)		<a href="http://patrickjmt.com/solving-absolute-value-inequalities-ex-2/">http://patrickjmt.com/solving-absolute-value-inequalities-ex-2/</a>	
		INVESTIGATE how to solve an example of an absolute value inequality and SUMMARIZE the process in your notes. (3 of 3)		<a href="http://patrickjmt.com/solving-absolute-value-inequalities-ex-3/">http://patrickjmt.com/solving-absolute-value-inequalities-ex-3/</a>	
		SOLVE absolute value inequalities.	Complete IXL Activities Algebra 1 L.3	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-1/solve-absolute-value-inequalities">https://www.ixl.com/math/algebra-1/solve-absolute-value-inequalities</a>

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		GRAPH absolute value inequalities.	Complete IXL Activities Algebra 1 L.4	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-1/graph-solutions-to-absolute-value-inequalities">https://www.ixl.com/math/algebra-1/graph-solutions-to-absolute-value-inequalities</a>
		CHECK your understanding of solving absolute value inequalities. (1 of 2)		<a href="https://brainiac.ck12.org/skills/106662">https://brainiac.ck12.org/skills/106662</a>	Teacher can create a class with students in order to view data about student performance
		CHECK your understanding of solving absolute value inequalities. (2 of 2)		<a href="https://brainiac.ck12.org/skills/106664">https://brainiac.ck12.org/skills/106664</a>	
<b>Extending Knowledge of Absolute Value Equations</b>	In this lesson, students will extend their knowledge of absolute value equations.	INVESTIGATE how to solve an equation with two absolute values and SUMMARIZE the process in your notes. (1 to 3)		<a href="http://patrickjmt.com/solving-absolute-value-equations-containing-two-absolute-value-expressions-ex-1/">http://patrickjmt.com/solving-absolute-value-equations-containing-two-absolute-value-expressions-ex-1/</a>	
		INVESTIGATE how to solve an equation with two absolute values and SUMMARIZE the process in your notes. (2 to 3)		<a href="http://patrickjmt.com/solving-absolute-value-equations-containing-two-absolute-value-expressions-ex-2/">http://patrickjmt.com/solving-absolute-value-equations-containing-two-absolute-value-expressions-ex-2/</a>	
		INVESTIGATE how to solve an equation with two absolute values and SUMMARIZE the process in your notes. (3 to 3)		<a href="http://patrickjmt.com/solving-absolute-value-equations-containing-two-absolute-value-expressions-ex-3/">http://patrickjmt.com/solving-absolute-value-equations-containing-two-absolute-value-expressions-ex-3/</a>	
		DEMONSTRATE your understanding of how to solve equations with two absolute values.		<a href="http://www.purplemath.com/modules/solveabs2.htm">http://www.purplemath.com/modules/solveabs2.htm</a>	
<b>Exploring Complex Number Operations</b>	In this lesson, students will explore complex number operations.	USE the following iBook as a resource to help you complete the following lessons.		<a href="https://itunes.apple.com/us/podcast/complex-numbers/id418804912?i=91070575&amp;mt=2">https://itunes.apple.com/us/podcast/complex-numbers/id418804912?i=91070575&amp;mt=2</a>	
		INVESTIGATE complex numbers and operations and summarize what you learned in your notes.		<a href="http://www.mathsisfun.com/numbers/complex-numbers.html">http://www.mathsisfun.com/numbers/complex-numbers.html</a>	
		INVESTIGATE finding powers of $i$ and CREATE an example on the ShowMe app to share.		<a href="http://www.virtualnerd.com/tutorials/?id=Alg2_05_01_0008">http://www.virtualnerd.com/tutorials/?id=Alg2_05_01_0008</a>	
		REINFORCE your understanding of writing complex numbers.	Complete IXL Activities Algebra 2 H.1	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/introduction-to-complex-numbers">https://www.ixl.com/math/algebra-2/introduction-to-complex-numbers</a>
		REINFORCE your understanding of operations with complex numbers.	Complete IXL Activities Algebra 2 H.6	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/add-subtract-multiply-and-divide-complex-numbers">https://www.ixl.com/math/algebra-2/add-subtract-multiply-and-divide-complex-numbers</a>
		REINFORCE your understanding of absolute value of complex numbers.	Complete IXL Activities Algebra 2 H.7	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/absolute-values-of-complex-numbers">https://www.ixl.com/math/algebra-2/absolute-values-of-complex-numbers</a>
		REINFORCE your understanding of finding powers of $i$ .	Complete IXL Activities Algebra 2 H.8	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/powers-of-i">https://www.ixl.com/math/algebra-2/powers-of-i</a>
		ASSESS your understanding complex numbers.		<a href="https://brainiac.ck12.org/units/1648/unit_quizzes">https://brainiac.ck12.org/units/1648/unit_quizzes</a>	Teacher can create a class with students in order to view data about student performance.
<b>Solving Quadratic Equations</b>	In this lesson, students will solve quadratic equations.	READ about strategies for determining the best strategy for solving a quadratic equation.		<a href="https://learnzillion.com/lesson_plans/792">https://learnzillion.com/lesson_plans/792</a>	Teacher Resource with posted student tasks
		REVIEW how to solve quadratic equations by factoring.		<a href="http://www.virtualnerd.com/tutorials/?id=Alg1_12_01_0006">http://www.virtualnerd.com/tutorials/?id=Alg1_12_01_0006</a>	
		APPLY your understanding of solving quadratic equations by factoring.	Complete IXL Activities Algebra 1 BB.6	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-1/solve-a-quadratic-equation-using-the-zero-product-property">https://www.ixl.com/math/algebra-1/solve-a-quadratic-equation-using-the-zero-product-property</a>
		EXPLORE completing the square with algebra tiles.		<a href="http://www.classzone.com/eservices/home/pdf/student/LA205EAD.pdf">http://www.classzone.com/eservices/home/pdf/student/LA205EAD.pdf</a>	

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		SOLVE the remaining problems from the previous table using algebra tiles.		<a href="https://itunes.apple.com/us/app/algebra-tiles/id568896224?mt=8">https://itunes.apple.com/us/app/algebra-tiles/id568896224?mt=8</a>	<a href="http://technology.cpm.org/general/tiles/">http://technology.cpm.org/general/tiles/</a>
		INVESTIGATE solving by completing the square and SUMMARIZE the process in your notes.		<a href="https://www.khanacademy.org/math/algebra/quadratics/solving-quadratics-by-completing-the-square/v/solving-quadratic-equations-by-completing-the-square">https://www.khanacademy.org/math/algebra/quadratics/solving-quadratics-by-completing-the-square/v/solving-quadratic-equations-by-completing-the-square</a>	
		DEMONSTRATE your skills for completing the square ( $a=1$ ).		<a href="https://brainiac.ck12.org/skills/106839">https://brainiac.ck12.org/skills/106839</a>	Teacher can create a class with students in order to view data about student performance.
		DEMONSTRATE your skills for completing the square ( $a>1$ ).		<a href="https://brainiac.ck12.org/skills/106840">https://brainiac.ck12.org/skills/106840</a>	Teacher can create a class with students in order to view data about student performance.
		EXPLORE the quadratic formula and its origins.		<a href="https://www.khanacademy.org/math/algebra/quadratics/solving-quadratics-using-the-quadratic-formula/a/quadratic-formula-explained-article">https://www.khanacademy.org/math/algebra/quadratics/solving-quadratics-using-the-quadratic-formula/a/quadratic-formula-explained-article</a>	
		CREATE a summary of the quadratic formula using the Explain Everything app.		<a href="https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8">https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8</a>	
		APPLY your understanding of the quadratic formula.		<a href="https://www.khanacademy.org/math/algebra/quadratics/solving-quadratics-using-the-quadratic-formula/e/quadratic-equation">https://www.khanacademy.org/math/algebra/quadratics/solving-quadratics-using-the-quadratic-formula/e/quadratic-equation</a>	
		INVESTIGATE the discriminant and SUMMARIZE what you have learned in your notes.		<a href="http://www.purplemath.com/modules/quadform2.htm">http://www.purplemath.com/modules/quadform2.htm</a>	
		DESCRIBE the solutions to quadratic equations using the discriminant.		<a href="https://brainiac.ck12.org/skills/106843">https://brainiac.ck12.org/skills/106843</a>	Teacher can create a class with students in order to view data about student performance
<b>Solving Quadratic Inequalities</b>	In this lesson, student will solve quadratic inequalities.	EXPLORE solving quadratic inequalities.		<a href="http://www.mathsisfun.com/algebra/inequality-quadratic-solving.html">http://www.mathsisfun.com/algebra/inequality-quadratic-solving.html</a>	
		CREATE and solve a quadratic inequality using the Explain Everything app.		<a href="https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8">https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8</a>	
		ASSESS your understanding of quadratic inequalities.		<a href="https://brainiac.ck12.org/skills/106853">https://brainiac.ck12.org/skills/106853</a>	Teacher can create a class with students in order to view data about student performance
		APPLY your understanding of quadratic inequalities to real-world situations.		<a href="https://brainiac.ck12.org/skills/106856">https://brainiac.ck12.org/skills/106856</a>	Teacher can create a class with students in order to view data about student performance
<b>Exploring Polynomial Operations and Vocabulary</b>	In this lesson, students will explore polynomial operations and vocabulary.	DISCOVER how polynomials are used in the real-world. (video)		<a href="https://www.youtube.com/watch?v=fnSkN61cxQM">https://www.youtube.com/watch?v=fnSkN61cxQM</a>	
		REVIEW what you know about the parts of a polynomial.		<a href="http://www.purplemath.com/modules/polydefs.htm">http://www.purplemath.com/modules/polydefs.htm</a>	
		INVESTIGATE the distributive property and SUMMARIZE in your notes.		<a href="http://www.virtualnerd.com/algebra-2/polynomials/operations/multiply/trinomial-multiplication">http://www.virtualnerd.com/algebra-2/polynomials/operations/multiply/trinomial-multiplication</a>	
		ASSESS your mastery of polynomial operations.		<a href="http://brainiac.ck12.org/skills/106882">http://brainiac.ck12.org/skills/106882</a>	Teacher can create a class with students in order to view data about student performance
		APPLY your knowledge of polynomial operations to complete the Floor Plan Project.		Polynomial Project document located in course posted in <i>Pennsylvania Learns</i> on iTunes U.	

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		INVESTIGATE polynomial long division and SUMMARIZE in your notes.		<a href="http://www.virtualnerd.com/algebra-2/polynomials/dividing/long-division/polynomial-long-division-example">http://www.virtualnerd.com/algebra-2/polynomials/dividing/long-division/polynomial-long-division-example</a>	
		DEMONSTRATE your understanding of polynomial long division.	Complete IXL Activities Algebra 2 K.4	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/divide-polynomials-using-long-division">https://www.ixl.com/math/algebra-2/divide-polynomials-using-long-division</a>
		ASSESS your knowledge of polynomial long division.		<a href="https://brainie.ck12.org/skills/106897">https://brainie.ck12.org/skills/106897</a>	Teacher can create a class with students in order to view data about student performance
		EXPLORE why synthetic division "works."		<a href="https://www.khanacademy.org/math/algebra2/polynomial_and_rational/synthetic-division/v/why-synthetic-division-works">https://www.khanacademy.org/math/algebra2/polynomial_and_rational/synthetic-division/v/why-synthetic-division-works</a>	
		INVESTIGATE synthetic division and SUMMARIZE in your notes.		<a href="http://patrickmt.com/synthetic-division-example-2/">http://patrickmt.com/synthetic-division-example-2/</a>	
		CHECK your understanding of synthetic division.	Complete IXL Activities Algebra 2 K.5 and K.6	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/divide-polynomials-using-synthetic-division">https://www.ixl.com/math/algebra-2/divide-polynomials-using-synthetic-division</a>
					<a href="https://www.ixl.com/math/algebra-2/evaluate-polynomials-using-synthetic-division">https://www.ixl.com/math/algebra-2/evaluate-polynomials-using-synthetic-division</a>
		INVESTIGATE the Remainder Theorem and DESCRIBE in your notes how it is related to the factor theorem and synthetic division.		<a href="http://www.mathsisfun.com/algebra/polynomials-remainder-factor.html">http://www.mathsisfun.com/algebra/polynomials-remainder-factor.html</a>	
		DEMONSTRATE your understanding of simplifying using synthetic division.		<a href="https://brainie.ck12.org/skills/106025">https://brainie.ck12.org/skills/106025</a>	Teacher can create a class with students in order to view data about student performance
<b>Finding Roots and Solving Polynomial Equations</b>	In this lesson, students will find roots and solve polynomial equations.	INVESTIGATE and SUMMARIZE the Fundamental Theorem of Algebra in your notes.		<a href="https://www.khanacademy.org/math/algebra2/polynomial_and_rational/fundamental-theorem-of-algebra/v/fundamental-theorem-of-algebra-intro">https://www.khanacademy.org/math/algebra2/polynomial_and_rational/fundamental-theorem-of-algebra/v/fundamental-theorem-of-algebra-intro</a>	
		REVIEW factoring strategies for polynomials.		<a href="http://www.virtualnerd.com/tutorials/?id=Alg1_7_3_1">http://www.virtualnerd.com/tutorials/?id=Alg1_7_3_1</a>	
		CHECK your understanding of factoring polynomials.	Complete IXL activities Algebra.2.1.1 through I.6	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/factor-out-a-monomial">https://www.ixl.com/math/algebra-2/factor-out-a-monomial</a>
					<a href="https://www.ixl.com/math/algebra-2/factor-quadratics-using-algebra-tiles">https://www.ixl.com/math/algebra-2/factor-quadratics-using-algebra-tiles</a>
					<a href="https://www.ixl.com/math/algebra-2/factor-quadratics">https://www.ixl.com/math/algebra-2/factor-quadratics</a>
					<a href="https://www.ixl.com/math/algebra-2/factor-using-a-quadratic-pattern">https://www.ixl.com/math/algebra-2/factor-using-a-quadratic-pattern</a>
					<a href="https://www.ixl.com/math/algebra-2/factor-by-grouping">https://www.ixl.com/math/algebra-2/factor-by-grouping</a>
					<a href="https://www.ixl.com/math/algebra-2/factor-sums-and-differences-of-cubes">https://www.ixl.com/math/algebra-2/factor-sums-and-differences-of-cubes</a>
		INVESTIGATE and SUMMARIZE in your notes the process for finding the roots of a factored polynomial.		<a href="https://www.youtube.com/watch?v=hJCHhWylws">https://www.youtube.com/watch?v=hJCHhWylws</a>	
		INVESTIGATE and SUMMARIZE in your notes the process for finding the roots of a factored polynomial.		<a href="http://www.virtualnerd.com/tutorials/?id=Alg2_06_01_0020">http://www.virtualnerd.com/tutorials/?id=Alg2_06_01_0020</a>	

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		DEMONSTRATE your understanding of how to find the roots of a polynomial by factoring.	Complete IXL activities Algebra.2.K.9 and K.10	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/write-a-polynomial-from-its-roots">https://www.ixl.com/math/algebra-2/write-a-polynomial-from-its-roots</a>
					<a href="https://www.ixl.com/math/algebra-2/rational-root-theorem">https://www.ixl.com/math/algebra-2/rational-root-theorem</a>
		ASSESS your mastery of the rational root theorem.		<a href="http://teachers.henrico.k12.va.us/math/hcpsalgebra2/Documents/8-5/rationalzerotheorem.htm">http://teachers.henrico.k12.va.us/math/hcpsalgebra2/Documents/8-5/rationalzerotheorem.htm</a>	
		INVESTIGATE how to find all roots of polynomial function and SUMMARIZE what you learned in your notes.		<a href="http://www.themathpage.com/aprecalc/factor-theorem.htm">http://www.themathpage.com/aprecalc/factor-theorem.htm</a>	
		DISCOVER the rule of signs and SUMMARIZE your learning in your notes.		<a href="http://www.mathsisfun.com/algebra/polynomials-rule-signs.html">http://www.mathsisfun.com/algebra/polynomials-rule-signs.html</a>	
		ASSESS your knowledge of how to find roots of a polynomial from its factored form. (1 of 3)		<a href="http://brainienie.ck12.org/skills/106905">http://brainienie.ck12.org/skills/106905</a>	Teacher can create a class with students in order to view data about student performance
		INVESTIGATE solving polynomial equations and SUMMARIZE your results in your notes.		<a href="http://www.mathsisfun.com/algebra/polynomials-solving.html">http://www.mathsisfun.com/algebra/polynomials-solving.html</a>	
		INVESTIGATE solving polynomial equations and SUMMARIZE your results in your notes.		<a href="http://www.purplemath.com/modules/solvpoly.htm">http://www.purplemath.com/modules/solvpoly.htm</a>	
		SOLVE polynomial equations by factoring sum and difference of cubes.		<a href="https://www.youtube.com/watch?v=3X2ikOD9Olg">https://www.youtube.com/watch?v=3X2ikOD9Olg</a>	
		DEMONSTRATE your understanding of solving polynomial equations.	Complete IXL activity Algebra.2.K.7	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/solve-polynomial-equations">https://www.ixl.com/math/algebra-2/solve-polynomial-equations</a>
		ASSESS your knowledge of solving polynomial equations.		<a href="http://brainienie.ck12.org/skills/106041">http://brainienie.ck12.org/skills/106041</a>	Teacher can create a class with students in order to view data about student performance
<b>Writing Equations for Polynomial Functions</b>	In this lesson, students will write equations for polynomial functions.	INVESTIGATE how to write a polynomial equation from its roots.		<a href="http://www.phschool.com/atschool/academy123/english/academy123_content/wl-book-demo/ph-580s.html">http://www.phschool.com/atschool/academy123/english/academy123_content/wl-book-demo/ph-580s.html</a>	
		CREATE your own problem in the Explain Everything app to share with others.		<a href="https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8">https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8</a>	
		ASSESS your knowledge of writing a polynomial equation from its roots.		<a href="http://brainienie.ck12.org/skills/106044">http://brainienie.ck12.org/skills/106044</a>	Teacher can create a class with students in order to view data about student performance
<b>Exploring the Binomial Theorem</b>	In this lesson, students will explore the binomial theorem.	INVESTIGATE Pascal's Triangle and SUMMARIZE your results in your notes.		<a href="http://www.mathsisfun.com/pascals-triangle.html">http://www.mathsisfun.com/pascals-triangle.html</a>	
		EXPLORE Pascal's Triangle.		<a href="http://www.shodor.org/interactivate/activities/ColoringMultiples/">http://www.shodor.org/interactivate/activities/ColoringMultiples/</a>	
		INVESTIGATE the Binomial Theorem and SUMMARIZE in your notes.		<a href="http://www.mathsisfun.com/algebra/binomial-theorem.html">http://www.mathsisfun.com/algebra/binomial-theorem.html</a>	
		CHECK your understanding of the Binomial Theorem.	Complete IXL activities Algebra.2.K.16 through K.19	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/pascals-triangle">https://www.ixl.com/math/algebra-2/pascals-triangle</a>
					<a href="https://www.ixl.com/math/algebra-2/pascals-triangle">https://www.ixl.com/math/algebra-2/pascals-triangle</a>
					<a href="https://www.ixl.com/math/algebra-2/binomial-theorem">https://www.ixl.com/math/algebra-2/binomial-theorem</a>
					<a href="https://www.ixl.com/math/algebra-2/binomial-theorem-ii">https://www.ixl.com/math/algebra-2/binomial-theorem-ii</a>

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		DISCOVER the link between Pascal's Triangle and the Binomial Theorem.		<a href="https://www.khanacademy.org/math/algebra2/polynomial-functions/binomial-theorem/v/pascals-triangle-binomial-theorem">https://www.khanacademy.org/math/algebra2/polynomial-functions/binomial-theorem/v/pascals-triangle-binomial-theorem</a>	
<b>Operating on Rational Expressions</b>	In this lesson, students will operate on rational expressions.	DISCOVER why is it called a rational expression.		<a href="http://www.virtualnerd.com/algebra-1/rational-expressions-functions-expressions/simplify/definition">http://www.virtualnerd.com/algebra-1/rational-expressions-functions-expressions/simplify/definition</a>	
		EXPLORE rational expressions and use the Explain Everything app to create and explain an example of a rational expression.		<a href="http://www.mathsisfun.com/algebra/rational-expression.html">http://www.mathsisfun.com/algebra/rational-expression.html</a>	
		REVIEW operating with rational expressions and PRACTICE those skills.		<a href="https://www.mathsisfun.com/algebra/rational-expression-operations.html">https://www.mathsisfun.com/algebra/rational-expression-operations.html</a>	
		REFRESH and DEMONSTRATE your understanding of operations with rational expressions.		<a href="http://www.algebralab.org/lessons/lesson.aspx?file=Algebra_rational_operations.xml">http://www.algebralab.org/lessons/lesson.aspx?file=Algebra_rational_operations.xml</a>	
		DEMONSTRATE simplifying, multiplication, division, addition, and subtraction rational expressions.	Complete IXL activities Algebra 2 N.4, N.5, N.6	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/simplify-rational-expressions">https://www.ixl.com/math/algebra-2/simplify-rational-expressions</a>
					<a href="https://www.ixl.com/math/algebra-2/simplify-rational-expressions">https://www.ixl.com/math/algebra-2/simplify-rational-expressions</a>
					<a href="https://www.ixl.com/math/algebra-2/add-and-subtract-rational-expressions">https://www.ixl.com/math/algebra-2/add-and-subtract-rational-expressions</a>
<b>Solving Rational Equations</b>	In this lesson, students will solve rational equations.	EXPLORE the collection of video examples about solving rational equations and CREATE your own example on the Explain Everything app to share with a partner.		<a href="https://www.khanacademy.org/math/algebra2/rational-expressions/solving-rational-equations/v/ex-1-multi-step-equation">https://www.khanacademy.org/math/algebra2/rational-expressions/solving-rational-equations/v/ex-1-multi-step-equation</a>	
		INVESTIGATE real world problems using rational equations and create your own problem for a friend to solve.		<a href="https://learnzillion.com/lessons/2952-solve-real-world-problems-using-rational-equations">https://learnzillion.com/lessons/2952-solve-real-world-problems-using-rational-equations</a>	
		SOLVE rational equations in proportion form only.	Complete IXL activity Algebra 2 N.7	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/add-and-subtract-rational-expressions">https://www.ixl.com/math/algebra-2/add-and-subtract-rational-expressions</a>
		SOLVE rational equations not in proportion form.		<a href="https://www.khanacademy.org/math/algebra2/rational-expressions/solving-rational-equations/e/solving_rational_equations_2">https://www.khanacademy.org/math/algebra2/rational-expressions/solving-rational-equations/e/solving_rational_equations_2</a>	
		ASSESS your ability to solve rational equations in proportion form.		<a href="https://brainie.ck12.org/skills/106406">https://brainie.ck12.org/skills/106406</a>	
		ASSESS your ability to solve rational equations with problem solving.		<a href="https://brainie.ck12.org/skills/106407">https://brainie.ck12.org/skills/106407</a>	
		ASSESS your ability to solve rational equations with one solution using the Lowest Common Denominator (LCD).		<a href="https://brainie.ck12.org/skills/106408">https://brainie.ck12.org/skills/106408</a>	
		ASSESS your ability to solve rational equations with two solutions using LCD.		<a href="https://brainie.ck12.org/skills/106409">https://brainie.ck12.org/skills/106409</a>	

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		ASSESS your ability to solve rational equations with extraneous solutions using LCD.		<a href="https://brain genie.ck12.org/skills/106410">https://brain genie.ck12.org/skills/106410</a>	
		APPLY rational equations to the real world by completing this Light It Up activity.		<a href="http://illuminations.nctm.org/Lesson.aspx?id=1968">http://illuminations.nctm.org/Lesson.aspx?id=1968</a>	
<b>Solving Rational Inequalities</b>	In this lesson, students will solve rational inequalities.	DISCOVER and SUMMARIZE your understanding of rational inequalities.		<a href="http://www.purplemath.com/modules/ineqrtnl.htm">http://www.purplemath.com/modules/ineqrtnl.htm</a>	
		CHECK your understanding of rational inequalities.		<a href="http://tutorial.math.lamar.edu/Classes/Alg/SolveRationalInequalities.aspx">http://tutorial.math.lamar.edu/Classes/Alg/SolveRationalInequalities.aspx</a>	
				<a href="http://tutorial.math.lamar.edu/Problems/Alg/SolveRationalInequalities.aspx">http://tutorial.math.lamar.edu/Problems/Alg/SolveRationalInequalities.aspx</a>	
<b>Operating on Radical Expressions</b>	In this lesson, students will operate on radical expressions.	INVESTIGATE parts of radicals and SUMMARIZE your learning in your notes.		<a href="https://www.khanacademy.org/math/algebra-home/alg-exp-and-log/miscellaneous-radicals/v/adding-and-simplifying-radicals">https://www.khanacademy.org/math/algebra-home/alg-exp-and-log/miscellaneous-radicals/v/adding-and-simplifying-radicals</a>	
				<a href="https://www.khanacademy.org/math/algebra-home/alg-exp-and-log/miscellaneous-radicals/v/subtracting-and-simplifying-radicals">https://www.khanacademy.org/math/algebra-home/alg-exp-and-log/miscellaneous-radicals/v/subtracting-and-simplifying-radicals</a>	
		SOLVE problems involving radical expressions.		<a href="https://brain genie.ck12.org/skills/107177">https://brain genie.ck12.org/skills/107177</a>	
		PRACTICE simplifying radicals.	Complete IXL activity Algebra 2 L.4	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/simplify-radical-expressions-with-variables">https://www.ixl.com/math/algebra-2/simplify-radical-expressions-with-variables</a>
		SIMPLIFY radicals other than square roots.	Complete IXL activity Algebra 2 L.5	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/simplify-radical-expressions-with-variables-ii">https://www.ixl.com/math/algebra-2/simplify-radical-expressions-with-variables-ii</a>
		PRACTICE simplifying nth roots.	Complete IXL activity Algebra2.L.6	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/nth-roots">https://www.ixl.com/math/algebra-2/nth-roots</a>
		DISCOVER how to simplify radical expressions with variables.		<a href="http://patrickjmt.com/radicals-simplifying-radical-expressions-involving-variables-ex-1/">http://patrickjmt.com/radicals-simplifying-radical-expressions-involving-variables-ex-1/</a>	
		INVESTIGATE how to multiply and divide radical expressions.		<a href="http://www.virtualnerd.com/algebra-1/radical-expressions-equations/simplify/multiply-divide/multiplication-example">http://www.virtualnerd.com/algebra-1/radical-expressions-equations/simplify/multiply-divide/multiplication-example</a>	
				<a href="https://www.khanacademy.org/math/algebra-home/alg-exp-and-log/miscellaneous-radicals/v/multiply-and-simplify-a-radical-expression-2">https://www.khanacademy.org/math/algebra-home/alg-exp-and-log/miscellaneous-radicals/v/multiply-and-simplify-a-radical-expression-2</a>	
		EXPLORE how to rationalize a denominator containing a radical expression and use the Explain Everything app to create a problem to share with a friend.		<a href="http://www.mathsisfun.com/algebra/rationalize-denominator.html">http://www.mathsisfun.com/algebra/rationalize-denominator.html</a>	
		CHECK your understanding of operations with radical expressions.	Complete IXL activities Algebra 2. L.7 through L. 11	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/multiply-radical-expressions">https://www.ixl.com/math/algebra-2/multiply-radical-expressions</a>
					<a href="https://www.ixl.com/math/algebra-2/multiply-radical-expressions">https://www.ixl.com/math/algebra-2/multiply-radical-expressions</a>

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					<a href="https://www.ixl.com/math/algebra-2/add-and-subtract-radical-expressions">https://www.ixl.com/math/algebra-2/add-and-subtract-radical-expressions</a>
					<a href="https://www.ixl.com/math/algebra-2/simplify-radical-expressions-using-the-distributive-property">https://www.ixl.com/math/algebra-2/simplify-radical-expressions-using-the-distributive-property</a>
					<a href="https://www.ixl.com/math/algebra-2/simplify-radical-expressions-using-conjugates">https://www.ixl.com/math/algebra-2/simplify-radical-expressions-using-conjugates</a>
<b>Exploring Rational Exponents</b>	In this lesson, students will explore rational exponents.	DISCOVER the connection between rational exponents and radicals and SUMMARIZE your findings in your notes.		<a href="http://www.purplemath.com/modules/exponent5.htm">http://www.purplemath.com/modules/exponent5.htm</a>	
		INVESTIGATE rational exponents and SUMMARIZE your learning in your notes.		<a href="http://www.themathpage.com/alg/rational-exponents.htm#fractional">http://www.themathpage.com/alg/rational-exponents.htm#fractional</a>	
		CHECK your understanding of simplifying expressions with rational exponents.	Complete IXL Activities Algebra.2.M.1 through M.6	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/evaluate-rational-exponents">https://www.ixl.com/math/algebra-2/evaluate-rational-exponents</a>
					<a href="https://www.ixl.com/math/algebra-2/multiplication-with-rational-exponents">https://www.ixl.com/math/algebra-2/multiplication-with-rational-exponents</a>
					<a href="https://www.ixl.com/math/algebra-2/division-with-rational-exponents">https://www.ixl.com/math/algebra-2/division-with-rational-exponents</a>
					<a href="https://www.ixl.com/math/algebra-2/power-rule">https://www.ixl.com/math/algebra-2/power-rule</a>
					<a href="https://www.ixl.com/math/algebra-2/simplify-expressions-involving-rational-exponents">https://www.ixl.com/math/algebra-2/simplify-expressions-involving-rational-exponents</a>
					<a href="https://www.ixl.com/math/algebra-2/simplify-expressions-involving-rational-exponents-ii">https://www.ixl.com/math/algebra-2/simplify-expressions-involving-rational-exponents-ii</a>
<b>Solving Radical Equations</b>	In this lesson, students will solve radical equations.	DISCOVER how to solve equations involving rational exponents		<a href="http://patrickjmt.com/solving-equations-involving-rational-exponents/">http://patrickjmt.com/solving-equations-involving-rational-exponents/</a>	
		CREATE a rational equation for a friend to solve.		<a href="https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8">https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8</a>	
		INVESTIGATE how to solve radical equations and SUMMARIZE the process in your notes.		<a href="http://www.purplemath.com/modules/solverad.htm">http://www.purplemath.com/modules/solverad.htm</a>	
		REINFORCE your understanding of solving radical equations by watching the solution process and use the Explain Everything app to CREATE a presentation to DEMONSTRATE what you learned.		<a href="http://www.virtualnerd.com/algebra-2/radical-functions/expressions-examples/solve-equations/solving-example">http://www.virtualnerd.com/algebra-2/radical-functions/expressions-examples/solve-equations/solving-example</a>	
		PRACTICE solving equations with radical expressions on one side.		<a href="https://brainie.ck12.org/skills/107178">https://brainie.ck12.org/skills/107178</a>	
		PRACTICE solving equations with radical expressions on both sides.		<a href="https://brainie.ck12.org/skills/107179">https://brainie.ck12.org/skills/107179</a>	
		APPLY radical equations to the real world.		<a href="http://solvingradicalequations.weebly.com/real-world-examples.html">http://solvingradicalequations.weebly.com/real-world-examples.html</a>	
		SOLVE radical equations in context.		<a href="https://brainie.ck12.org/skills/107181">https://brainie.ck12.org/skills/107181</a>	
		ASSESS your ability to solve radical equations.		<a href="https://brainie.ck12.org/skills/107180">https://brainie.ck12.org/skills/107180</a>	

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<b>Solving Radical Inequalities</b>	In this lesson, students will solve radical inequalities.	INVESTIGATE how to solve radical inequalities & SUMMARIZE your learning in your notes.		<a href="https://www.youtube.com/watch?v=joPJVC5pH4">https://www.youtube.com/watch?v=joPJVC5pH4</a>	
<b>Applying Knowledge of Radical Equations</b>	In this lesson, students will apply knowledge of radical equations.	LEARN about radical equations in tsunamis.		<a href="http://www.ck12.org/algebra/Radical-Equations/rwa/Riding-the-Wave/?referrer=concept_details">http://www.ck12.org/algebra/Radical-Equations/rwa/Riding-the-Wave/?referrer=concept_details</a>	
		LEARN about radical equations in hydroplaning.		<a href="http://www.ck12.org/algebra/Radical-Equations/rwa/Driving-on-Water/?referrer=concept_details">http://www.ck12.org/algebra/Radical-Equations/rwa/Driving-on-Water/?referrer=concept_details</a>	
		APPLY your understanding of radical equations to SOLVE real world problems using pages 10.1.3 in NASA's Algebra 2 with Space Science Applications.		<a href="https://www.nasa.gov/pdf/714670main_Algebra2.pdf">https://www.nasa.gov/pdf/714670main_Algebra2.pdf</a>	
<b>Exploring Exponential Expressions and Equations</b>	In this lesson, students will explore exponential expressions and equations.	INVESTIGATE how to solve exponential equations with a common base and SUMMARIZE the process in your notes.		<a href="http://www.purplemath.com/modules/solvexpo.htm">http://www.purplemath.com/modules/solvexpo.htm</a>	
		EXPLORE how to solve exponential equations without a common base and SUMMARIZE the process in your notes.		<a href="http://www.purplemath.com/modules/solvexpo2.htm">http://www.purplemath.com/modules/solvexpo2.htm</a>	
		PRACTICE solving exponential equations.	Complete the practice problems.	<a href="http://www.mathwarehouse.com/algebra/exponents/solve-exponential-equations-how-to.php">http://www.mathwarehouse.com/algebra/exponents/solve-exponential-equations-how-to.php</a>	
		CHECK your understanding of solving exponential equations.	Complete IXL activities Algebra.2.S.4 and S.5	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/solve-exponential-equations-using-factoring">https://www.ixl.com/math/algebra-2/solve-exponential-equations-using-factoring</a>
					<a href="https://www.ixl.com/math/algebra-2/solve-exponential-equations-using-factoring">https://www.ixl.com/math/algebra-2/solve-exponential-equations-using-factoring</a>
<b>Converting Between Exponential and Logarithmic Forms</b>	In this lesson, students will convert between exponential and logarithmic forms.	WATCH and SUMMARIZE a video of how to convert from exponential to logarithmic form.		<a href="http://www.virtualnerd.com/algebra-2/exponential-logarithmic-functions/logarithms-logarithmic-functions/logarithms-introduction/convert-exponential-to-log">http://www.virtualnerd.com/algebra-2/exponential-logarithmic-functions/logarithms-logarithmic-functions/logarithms-introduction/convert-exponential-to-log</a>	
		WATCH the video and SUMMARIZE of how to convert from logarithmic to exponential form.		<a href="http://www.virtualnerd.com/algebra-2/exponential-logarithmic-functions/logarithms-logarithmic-functions/logarithms-introduction/convert-log-to-exponential">http://www.virtualnerd.com/algebra-2/exponential-logarithmic-functions/logarithms-logarithmic-functions/logarithms-introduction/convert-log-to-exponential</a>	
		PRACTICE converting between exponential and logarithmic form.	Complete IXL activity Algebra2.R.1	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/convert-between-exponential-and-logarithmic-form-rational-bases">https://www.ixl.com/math/algebra-2/convert-between-exponential-and-logarithmic-form-rational-bases</a>
		ASSESS your ability to convert from exponential to logarithmic form.		<a href="http://braingenie.ck12.org/skills/106345">http://braingenie.ck12.org/skills/106345</a>	
		ASSESS your ability to convert from logarithmic to exponential form.		<a href="http://braingenie.ck12.org/skills/106344">http://braingenie.ck12.org/skills/106344</a>	
<b>Evaluating Logarithms</b>	In this lesson, students will evaluate logarithms.	LEARN how to evaluate logarithms.		<a href="http://www.virtualnerd.com/algebra-2/exponential-logarithmic-functions/logarithms-logarithmic-functions/logarithms-introduction/evaluate-log-example">http://www.virtualnerd.com/algebra-2/exponential-logarithmic-functions/logarithms-logarithmic-functions/logarithms-introduction/evaluate-log-example</a>	

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		EVALUATE logarithms.	Complete IXL Activity Algebra2.R.4	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/evaluate-logarithms">https://www.ixl.com/math/algebra-2/evaluate-logarithms</a>
		EVALUATE natural logarithms.	Complete IXL Activity Algebra 2.R.5	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/evaluate-natural-logarithms">https://www.ixl.com/math/algebra-2/evaluate-natural-logarithms</a>
		ASSESS your ability to evaluate logarithms.		<a href="http://braingenie.ck12.org/skills/106346">http://braingenie.ck12.org/skills/106346</a>	
		ASSESS your ability to evaluate common and natural logarithms.		<a href="http://braingenie.ck12.org/skills/106347">http://braingenie.ck12.org/skills/106347</a>	
		EXPLORE the change of base formula.		<a href="http://www.virtualnerd.com/algebra-2/exponential-logarithmic-functions/logarithm-properties/logarithm-properties-definitions/log-change-base-formula">http://www.virtualnerd.com/algebra-2/exponential-logarithmic-functions/logarithm-properties/logarithm-properties-definitions/log-change-base-formula</a>	
		EVALUATE logarithms using the change of base formula.	Complete IXL Activity Algebra 2.R.6	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/change-of-base-formula">https://www.ixl.com/math/algebra-2/change-of-base-formula</a>
		ASSESS your ability to evaluate logarithms using the change of base formula.		<a href="http://braingenie.ck12.org/skills/106359">http://braingenie.ck12.org/skills/106359</a>	
<b>Exploring Properties of Logarithms</b>	In this lesson, students will explore properties of logarithms.	EXPLORE the properties/rules of logarithms (video).		<a href="http://www.purplemath.com/modules/logrules.htm">http://www.purplemath.com/modules/logrules.htm</a>	
		IDENTIFY properties of logarithms.	Complete IXL Activity Algebra2.R.7	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/identify-properties-of-logarithms">https://www.ixl.com/math/algebra-2/identify-properties-of-logarithms</a>
		ASSESS your ability to expand logarithms using the properties.		<a href="http://braingenie.ck12.org/skills/106357">http://braingenie.ck12.org/skills/106357</a>	
		ASSESS your ability to condense logarithms using the properties.		<a href="http://braingenie.ck12.org/skills/106358">http://braingenie.ck12.org/skills/106358</a>	
<b>Solving Logarithmic Equations</b>	In this lesson, students will solve logarithmic equations.	WATCH the video on how to solve logarithmic equations using properties of logarithms.		<a href="https://www.youtube.com/watch?v=ZUREfaCqWzY">https://www.youtube.com/watch?v=ZUREfaCqWzY</a>	
		WATCH a video on how to solve logarithmic equations using exponents.		<a href="http://www.virtualnerd.com/algebra-2/exponential-logarithmic-functions/solving-equations-inequalities/solving-logarithmic-equations/solve-by-exponentiating">http://www.virtualnerd.com/algebra-2/exponential-logarithmic-functions/solving-equations-inequalities/solving-logarithmic-equations/solve-by-exponentiating</a>	
		PRACTICE solving logarithmic equations.		<a href="http://tutorial.math.lamar.edu/Problems/Alg/SolveLogEqns.aspx">http://tutorial.math.lamar.edu/Problems/Alg/SolveLogEqns.aspx</a>	
		ASSESS your ability to SOLVE logarithmic equations using exponents.		<a href="http://braingenie.ck12.org/skills/106364">http://braingenie.ck12.org/skills/106364</a>	
		ASSESS your ability to SOLVE logarithmic equations while accounting for extraneous solutions.		<a href="http://braingenie.ck12.org/skills/106365">http://braingenie.ck12.org/skills/106365</a>	
		APPLY your understanding of using logarithms to solve real world problems using pages 8.6.1 and 8.6.2 in NASA's Algebra 2 with Space Science Applications.		<a href="https://www.nasa.gov/pdf/714670main_Algebra2.pdf">https://www.nasa.gov/pdf/714670main_Algebra2.pdf</a>	

Module 2: Trigonometric Functions

Module Title	Message	Assignment / Call to Action (200 Character Max)	Content Directions	Resource / URL	Alternative to IOS or Notes
<b>Module 2: Trigonometric Functions</b>	<p>In this module, you will build on your previous work with functions and on your work with trigonometric ratios and circles in geometry. You will now use the coordinate plane to extend trigonometry to model periodic phenomena, as well as use the unit circle to determine domain and range and trigonometric identities.</p> <p>Focus Standards Addressed in this Module:  <a href="#">CC.2.2.HS.C.7</a> - Apply radian measure of an angle and the unit circle to analyze the trigonometric functions.  <a href="#">CC.2.2.HS.C.8</a> - Choose trigonometric functions to model periodic phenomena and describe the properties of the graphs.</p> <p>SUGGESTED APPS FOR CAPTURING NOTES:                      Notability (\$2.99) OR PaperPort (FREE).</p> <p>SUGGESTED APPS FOR CREATING PRESENTATIONS: Explain Everything</p>				
<b>Understanding the Unit Circle</b>	In this lesson, students will explore the unit circle.	DISCOVER the origins of the unit circle.		<a href="#">Unit Circle 1-2 PDF (1)</a>	
		INVESTIGATE real-world uses for the unit circle.		<a href="http://unitcircle.weebly.com/essay.html">http://unitcircle.weebly.com/essay.html</a>	
		REVEAL the origins of the unit circle (video).		<a href="https://www.khanacademy.org/math/trigonometry/unit-circle-trig-func/Trig-unit-circle/v/unit-circle-definition-of-trig-functions-1">https://www.khanacademy.org/math/trigonometry/unit-circle-trig-func/Trig-unit-circle/v/unit-circle-definition-of-trig-functions-1</a>	
		CONSTRUCT a unit circle using right triangles.	Step1: Students should click on the 30, 150, 210, and 330 buttons. Students should describe what patterns they see. Describe the connection between these 4 ordered pairs. Repeat for the 45 degree reference triangles and the 60 degree reference triangles.	<a href="https://www.desmos.com/calculator/evltrytg3v">https://www.desmos.com/calculator/evltrytg3v</a>	
		ANALYZE the unit circle using a graphing calculator.	Having students graph the Unit Circle on the graphing calculator using the parametric would be helpful first. Then after completing the NCTM illuminations activity for graphing (which is below) revisit this site and graph the parametric form and the function form of sine and cosine to make the connection to the circle.	<a href="http://mathbits.com/MathBits/TISection/Trig/unitcircle.htm">http://mathbits.com/MathBits/TISection/Trig/unitcircle.htm</a>	
		INTERACT with the unit circle.		<a href="http://www.mathwarehouse.com/unit-circle/unit-circle-game.php">http://www.mathwarehouse.com/unit-circle/unit-circle-game.php</a>	
		PRACTICE finding trigonometric ratios using the unit circle.	Complete IXL Activity Algebra 2 Y.6	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/find-trigonometric-ratios-using-the-unit-circle">https://www.ixl.com/math/algebra-2/find-trigonometric-ratios-using-the-unit-circle</a>
<b>Applying the Periodic Functions</b>	In this lesson, students will apply the periodic functions.	LEARN about how ocean tides can be represented by a periodic function.		<a href="https://www.youtube.com/watch?v=51aivZiP9vA">https://www.youtube.com/watch?v=51aivZiP9vA</a>	
		EXPLORE real world examples of periodic functions.		<a href="https://prezi.com/btjzvyf89spd/real-world-examples-of-periodic-functions/">https://prezi.com/btjzvyf89spd/real-world-examples-of-periodic-functions/</a> <a href="https://itunes.apple.com/us/app/prezi/id407759942?mt=8">https://itunes.apple.com/us/app/prezi/id407759942?mt=8</a>	
		DISCOVER characteristics of graphs of periodic functions. (PART A)	Part A: Geometer's Sketchpad file "Exploring Sine Transformations" in course in Pennsylvania Learns on iTunes U.	Opens file in Sketchpad Explorer app <a href="https://itunes.apple.com/us/app/sketchpad-explorer/id452811793?mt=8">https://itunes.apple.com/us/app/sketchpad-explorer/id452811793?mt=8</a>	<a href="https://www.desmos.com/calculator/4jrsmtuqsk">https://www.desmos.com/calculator/4jrsmtuqsk</a>
		UNDERSTAND the properties of periodic functions (video).		<a href="http://www.virtualnerd.com/algebra-2/trigonometric-identities-equations/graphing-functions/periodic-functions/periodic-function-definition">http://www.virtualnerd.com/algebra-2/trigonometric-identities-equations/graphing-functions/periodic-functions/periodic-function-definition</a>	

Module Title	Message	Assignment / Call to Action (200 Character Max)	Content Directions	Resource / URL	Alternative to IOS or Notes
		WATCH and SUMMARIZE an example of how to graph a sine function (video).		<a href="http://www.virtualnerd.com/algebra-2/trigonometric-identities-equations/graphing-functions/graphing-sine-cosine/graph-sine-example">http://www.virtualnerd.com/algebra-2/trigonometric-identities-equations/graphing-functions/graphing-sine-cosine/graph-sine-example</a>	
		EXPLORE the attributes of a sine function. (PART B)	Part B: Geometer's Sketchpad file "Exploring Sine Transformations" in course in Pennsylvania Learns on iTunes U.	Opens file in Sketchpad Explorer app <a href="https://itunes.apple.com/us/app/sketchpad-explorer/id452811793?mt=8">https://itunes.apple.com/us/app/sketchpad-explorer/id452811793?mt=8</a>	<a href="https://www.desmos.com/calculator/4jrsmtuqsk">https://www.desmos.com/calculator/4jrsmtuqsk</a>
		REFLECT on the differences between Part A and Part B		<a href="https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8">https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8</a>	
		PRACTICE identifying properties of graphs of sine functions.	Complete IXL Activity Algebra 2.Z.1	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/find-properties-of-sine-functions">https://www.ixl.com/math/algebra-2/find-properties-of-sine-functions</a>
		DEMONSTRATE your ability to graph sine functions.	Complete IXL Activity Algebra 2.Z.4	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/graph-sine-functions">https://www.ixl.com/math/algebra-2/graph-sine-functions</a>
		PRACTICE writing equations for sine functions from graphs.	Complete IXL Activity Algebra 2.Z.2	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/graph-sine-functions">https://www.ixl.com/math/algebra-2/graph-sine-functions</a>
		WATCH and SUMMARIZE a video about how to graph a cosine function.		<a href="http://www.virtualnerd.com/algebra-2/trigonometric-identities-equations/graphing-functions/graphing-sine-cosine/cosine-graph">http://www.virtualnerd.com/algebra-2/trigonometric-identities-equations/graphing-functions/graphing-sine-cosine/cosine-graph</a>	
		PRACTICE identifying properties of cosine functions.	Complete IXL Activity Algebra 2.Z.5	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/find-properties-of-cosine-functions">https://www.ixl.com/math/algebra-2/find-properties-of-cosine-functions</a>
		DEMONSTRATE your ability to graph cosine functions.	Complete IXL Activity Algebra 2.Z.8	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/graph-cosine-functions">https://www.ixl.com/math/algebra-2/graph-cosine-functions</a>
		PRACTICE writing equations for cosine functions from graphs.	Complete IXL Activity Algebra 2.Z.6	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/write-equations-of-cosine-functions-from-graphs">https://www.ixl.com/math/algebra-2/write-equations-of-cosine-functions-from-graphs</a>
		ASSESS your ability to graph sine and cosine functions.		<a href="http://braingenie.ck12.org/skills/106272">http://braingenie.ck12.org/skills/106272</a>	
		WATCH the video and PREDICT the red scrambler's position be at the end of the ride. (Scrambler Part 1)	Watch act one video only.	<a href="http://threeacts.mrmeyer.com/scrambler/">http://threeacts.mrmeyer.com/scrambler/</a>	
		WATCH a video and ASSESS what new information you now know. (Scrambler Part 2)	Watch act two video only.	<a href="http://threeacts.mrmeyer.com/scrambler/">http://threeacts.mrmeyer.com/scrambler/</a>	
		WATCH the entire video of the ride. (Scrambler Part 3)	Watch act three video only.	<a href="http://threeacts.mrmeyer.com/scrambler/">http://threeacts.mrmeyer.com/scrambler/</a>	
		ASSESS the accuracy of your prediction. (Scrambler Reflection)	Check to see if you agree.	<a href="http://threeacts.mrmeyer.com/scrambler/act3/studentwork.pdf">http://threeacts.mrmeyer.com/scrambler/act3/studentwork.pdf</a>	
		APPLY a trigonometric function to model the Scrambler: For a ride of any length $t$ , how many times will the scrambler pass through its starting position? (Scrambler Application)		<a href="https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8">https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8</a>	
		OBSERVE the movement of the Ferris wheel in the diagram.		Ferris Wheel Diagram.pdf in course in Pennsylvania Learns on iTunes U.	
		CREATE a table of values to represent the height of a seat on a Ferris wheel through one revolution. (Ferris Wheel Part 1)	Use the Explain Everything app throughout the Ferris Wheel problem to document your thinking	<a href="https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8">https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8</a>	
		GRAPH your table. What function could be used to represent this motion? (Ferris Wheel Part 2)		<a href="https://itunes.apple.com/us/app/desmos-graphing-calculator/id653517540?mt=8">https://itunes.apple.com/us/app/desmos-graphing-calculator/id653517540?mt=8</a>	<a href="https://www.desmos.com">https://www.desmos.com</a>
		MODEL the height of a seat on a ferris wheel as a function of time. (Ferris Wheel Part 3)			
		ASSESS the validity of your equation by graphing your function against your table values (Ferris Wheel Part 4)		<a href="https://itunes.apple.com/us/app/desmos-graphing-calculator/id653517540?mt=8">https://itunes.apple.com/us/app/desmos-graphing-calculator/id653517540?mt=8</a>	<a href="https://www.desmos.com">https://www.desmos.com</a>

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		CREATE a second equation using a different function to model the same motion. (Ferris Wheel Part 5)			
<b>Applying Trigonometric Functions</b>	In this lesson, students will apply trigonometric functions.	INVESTIGATE real-world applications for trigonometric identities (video).		<a href="https://www.youtube.com/watch?v=6u3acklwh6Y">https://www.youtube.com/watch?v=6u3acklwh6Y</a>	
		DISCOVER applications for trigonometric identities.		<a href="https://prezi.com/vysb1nqexnzd/trigonometric-identities-in-the-real-world/">https://prezi.com/vysb1nqexnzd/trigonometric-identities-in-the-real-world/</a> <a href="https://itunes.apple.com/us/app/prezi/id407759942?mt=8">https://itunes.apple.com/us/app/prezi/id407759942?mt=8</a>	
		PROVE the Pythagorean trigonometric identities. (video)		<a href="https://www.youtube.com/watch?v=r382kfkqAF4">https://www.youtube.com/watch?v=r382kfkqAF4</a>	
		SIMPLIFY trigonometric expressions using Pythagorean identities. (video)		<a href="https://www.khanacademy.org/math/trigonometry/less-basic-trigonometry/pythagorean-identity/v/examples-using-pythagorean-identities-to-simplify-trigonometric-expressions">https://www.khanacademy.org/math/trigonometry/less-basic-trigonometry/pythagorean-identity/v/examples-using-pythagorean-identities-to-simplify-trigonometric-expressions</a>	
		ASSESS your ability to simplify expressions with trigonometric identities.		<a href="https://brainenie.ck12.org/skills/106411">https://brainenie.ck12.org/skills/106411</a>	

Module 3: Modeling with Functions

Module Title	Message	Assignment / Call to Action (200 Character Max)	Content Directions	Resource / URL	Alternative to IOS or Notes
<b>Module 3: Modeling with Functions</b>	<p>In this module, you will synthesize and generalize what you have learned about a variety of function families. You will explore the effects of transformations and rewrite equations in equivalent forms. You will manipulate equations to solve for other variables and make comparisons of multiple functions based on graphs, tables, and equations. Functions of focus include linear, quadratic, radical, piecewise, step, absolute value, exponential, logarithmic, rational, and inverse. You will identify appropriate types of functions to model a situation, understand the constraints, adjust parameters of existing models, and then synthesize, by creating new equations.</p> <p>Focus Standards Addressed in this Module  <a href="#">CC.2.2.HS.C.2</a> - Graph and analyze functions and use their properties to make connections between the different representations.  <a href="#">CC.2.2.HS.C.4</a> - Interpret the effects transformations have on functions and find the inverses of functions.  <a href="#">CC.2.2.HS.C.5</a> - Construct and compare linear, quadratic and exponential models to solve problems.  <a href="#">CC.2.2.HS.C.6</a> - Interpret functions in terms of the situation they model.  <a href="#">CC.2.2.HS.D.7</a> - Create and graph equations or inequalities to describe numbers or relationships.</p> <p>SUGGESTED APPS FOR CAPTURING NOTES:                      Notability (\$2.99) OR PaperPort (FREE).</p> <p>SUGGESTED APPS FOR CREATING PRESENTATIONS: ShowMe (FREE).</p> <p>SUGGESTED APPS FOR GRAPHING FUNCTIONS: Desmos (FREE)</p>				
<b>Exploring Domain and Multiple Function Families</b>	In this lesson, student will explore domain and multiple function families.	EXPLORE domain as it applies to multiple function families (linear, quadratic, cubic, radical) through multiple representations (graphs, tables, number lines, descriptive, symbolic).		<a href="http://illuminations.nctm.org/uploadedFiles/Content/Lessons/Resources/9-12/DomainReps-AS-Domains.pdf">http://illuminations.nctm.org/uploadedFiles/Content/Lessons/Resources/9-12/DomainReps-AS-Domains.pdf</a>	
<b>Applying Knowledge of Linear Functions</b>	In this lesson, students will apply their knowledge of linear functions.	APPLY systems with tables, charts, and graphs.	Import into Explain Everything to solve.	<a href="http://www.utdanacenter.org/k12mathbenchmarks/tasks/10_cycling.php">http://www.utdanacenter.org/k12mathbenchmarks/tasks/10_cycling.php</a> <a href="https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8">https://itunes.apple.com/us/app/explain-everything-interactive/id431493086?mt=8</a>	
<b>Exploring Absolute Value Functions</b>	In this lesson, students will explore absolute value functions.	INVESTIGATE transformations of absolute value graphs. (Part 1 of 2)		<a href="https://www.desmos.com/calculator/rmhvvaofek">https://www.desmos.com/calculator/rmhvvaofek</a>	
		RECORD your thoughts using a note taking app on what effect changing the h, v, and a have on the absolute value graph. (Part 2 of 2)	Use the preferred notetaking app		
		WATCH a video on how to graph an absolute value function to see if your observations were correct.		<a href="https://www.youtube.com/watch?v=Uf91hc1Ubr0">https://www.youtube.com/watch?v=Uf91hc1Ubr0</a>	
		LEARN how to graph an absolute value function (video).		<a href="https://www.khanacademy.org/math/algebra2/functions_and_graphs/piecewise-functions-tutorial/v/absolute-value-graphing-exercise-example">https://www.khanacademy.org/math/algebra2/functions_and_graphs/piecewise-functions-tutorial/v/absolute-value-graphing-exercise-example</a>	
		MATCH equations of absolute value functions with their graphs.		<a href="https://www.khanacademy.org/math/algebra2/functions_and_graphs/piecewise-functions-tutorial/e/graphs-of-absolute-value-functions">https://www.khanacademy.org/math/algebra2/functions_and_graphs/piecewise-functions-tutorial/e/graphs-of-absolute-value-functions</a>	
		DEMONSTRATE your ability to graph absolute value functions.	Complete IXL activity: Algebra1.DD.3	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-1/domain-and-range-of-absolute-value-functions-graphs">https://www.ixl.com/math/algebra-1/domain-and-range-of-absolute-value-functions-graphs</a>
		ASSESS graphing absolute value functions.		<a href="http://braingenie.ck12.org/skills/106714">http://braingenie.ck12.org/skills/106714</a>	
		ASSESS writing an equation for an absolute value function given a graph.		<a href="http://braingenie.ck12.org/skills/106717">http://braingenie.ck12.org/skills/106717</a>	

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		LEARN how to solve real-world problems modeled by absolute value equations. (video)		<a href="https://www.youtube.com/watch?v=HTGgZ1mYIXo">https://www.youtube.com/watch?v=HTGgZ1mYIXo</a>	
		WATCH and SUMMARIZE solving real-world problems modeled by absolute value inequalities. (video)		<a href="http://www.virtualnerd.com/algebra-2/equations-inequalities/solving-absolute-values/solve-absolute-value-inequalities/absolute-value-inequality-from-word-problem">http://www.virtualnerd.com/algebra-2/equations-inequalities/solving-absolute-values/solve-absolute-value-inequalities/absolute-value-inequality-from-word-problem</a>	
		ASSESS solving word problems modeled by absolute value inequalities.		<a href="http://braingenie.ck12.org/skills/106665">http://braingenie.ck12.org/skills/106665</a>	
<b>Exploring Quadratic Functions</b>	In this lesson, students will explore quadratic functions.	DEVELOP a basic understanding of quadratic function graphs by exploring shapes and asking questions of a partner.		<a href="https://teacher.desmos.com/polygraph-parabolas">https://teacher.desmos.com/polygraph-parabolas</a>	
		CREATE a table of values to model a function (video).		<a href="http://www.virtualnerd.com/algebra-1/quadratic-equations-functions/graphing/graph-basics/table-example">http://www.virtualnerd.com/algebra-1/quadratic-equations-functions/graphing/graph-basics/table-example</a>	
		LEARN about graphing quadratic functions. (video)		<a href="http://www.virtualnerd.com/algebra-1/quadratic-equations-functions/graphing/graph-basics/how-do-you-graph-a-quadratic-function">http://www.virtualnerd.com/algebra-1/quadratic-equations-functions/graphing/graph-basics/how-do-you-graph-a-quadratic-function</a>	
		PRACTICE creating a quadratic function from zeros.	Complete IXL activity: Algebra2.J.3	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/graph-a-quadratic-function">https://www.ixl.com/math/algebra-2/graph-a-quadratic-function</a>
		MATCH graphs of quadratic functions to equations.	Complete IXL activity: Algebra 2.J.5	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/solve-a-quadratic-equation-using-the-zero-product-property">https://www.ixl.com/math/algebra-2/solve-a-quadratic-equation-using-the-zero-product-property</a>
		LEARN how to create and graph equations to model real-world quadratic functions. (video)		<a href="https://learnzillion.com/lessons/662-create-and-graph-quadratic-functions">https://learnzillion.com/lessons/662-create-and-graph-quadratic-functions</a>	
		EXAMINE transformations of quadratic functions.		<a href="http://hotmath.com/hotmath_help/topics/graphing-quadratic-equations-using-transformations.html">http://hotmath.com/hotmath_help/topics/graphing-quadratic-equations-using-transformations.html</a>	
		ANALYZE the following graph and develop the quadratic functions with domain restrictions that reproduce that image. (Part 1 of 2)		<a href="http://i0.wp.com/dailydesmos.com/wp-content/uploads/2014/05/2014-05-21_08h11_11.png">http://i0.wp.com/dailydesmos.com/wp-content/uploads/2014/05/2014-05-21_08h11_11.png</a>	use Desmos app
		COMPARE your equations to this solution. (Part 2 of 2)		<a href="https://www.desmos.com/calculator/dvjxziiyao">https://www.desmos.com/calculator/dvjxziiyao</a>	
		MODEL revenue using quadratic functions.	Import into Explain Everything to solve.	<a href="http://www.utdanacenter.org/k12mathbenchmarks/tasks/26_seasonpass.php">http://www.utdanacenter.org/k12mathbenchmarks/tasks/26_seasonpass.php</a>	
		INVESTIGATE real-world applications for quadratic models.		<a href="http://www.mathsisfun.com/algebra/quadratic-equation-real-world.html">http://www.mathsisfun.com/algebra/quadratic-equation-real-world.html</a>	
		APPLY quadratic functions to model NASA's C-9 jet.		<a href="http://www.nasa.gov/audience/foreducators/mathandscience/exploration/Prob_WeightlessWonder_detail.html">http://www.nasa.gov/audience/foreducators/mathandscience/exploration/Prob_WeightlessWonder_detail.html</a>	
		ASSESS your ability to apply quadratic models to real-world situations.		<a href="http://braingenie.ck12.org/skills/106797">http://braingenie.ck12.org/skills/106797</a>	
<b>Exploring Polynomial Functions</b>	In this lesson, students will explore polynomial functions.	INVESTIGATE how to use polynomial functions and regressions to model real-world data.	Read through the lesson.	<a href="http://www.classzone.com/eservices/home/pdf/teacher/LA206IBD.pdf">http://www.classzone.com/eservices/home/pdf/teacher/LA206IBD.pdf</a>	
				<a href="https://www.desmos.com/calculator/dvjxziiyao">https://www.desmos.com/calculator/dvjxziiyao</a>	
		EXPLORE the effect of changing coefficients in polynomial function equations on the graphs of polynomials (degrees 0-5).		<a href="https://tube.geogebra.org/student/m31790">https://tube.geogebra.org/student/m31790</a>	

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		WATCH and SUMMARIZE how to describe x-intercepts and local maxima and minima. (video)		<a href="https://braingenie.ck12.org/skills/108284">https://braingenie.ck12.org/skills/108284</a>	
		DISCOVER properties and trends in end behavior through a discovery exercise.		*PDF "Exploring Polynomials Guided Discovery" located in Pennsylvania Learns in iTunes U.	Adapted from <a href="http://betterlesson.com/community/document/1754632/graphing-calculator-end-behavior-discovery-docx">http://betterlesson.com/community/document/1754632/graphing-calculator-end-behavior-discovery-docx</a>
		LEARN how to describe trends in end behavior. (video)		<a href="https://www.khanacademy.org/math/algebra2/polynomial_and_rational/polynomial-end-behavior/v/polynomial-end-behavior">https://www.khanacademy.org/math/algebra2/polynomial_and_rational/polynomial-end-behavior/v/polynomial-end-behavior</a>	
		LEARN about matching equations to graphs using end behavior.		<a href="https://www.khanacademy.org/math/algebra2/polynomial-functions/polynomial-end-behavior/v/recognizing-features-of-functions-example-1">https://www.khanacademy.org/math/algebra2/polynomial-functions/polynomial-end-behavior/v/recognizing-features-of-functions-example-1</a>	
		MATCH graphs to equations.	Complete IXL activity: Algebra 2.K.14	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/match-polynomials-and-graphs">https://www.ixl.com/math/algebra-2/match-polynomials-and-graphs</a>
		MATCH graphs to equations.		<a href="https://www.khanacademy.org/math/algebra2/polynomial_and_rational/polynomial-end-behavior/e/graphs-of-polynomials">https://www.khanacademy.org/math/algebra2/polynomial_and_rational/polynomial-end-behavior/e/graphs-of-polynomials</a>	
		PRACTICE matching graphs to equations using x-intercepts.		<a href="https://braingenie.ck12.org/skills/106915">https://braingenie.ck12.org/skills/106915</a>	
		FIND values of local maxima and minima from equations.		<a href="https://braingenie.ck12.org/skills/106916">https://braingenie.ck12.org/skills/106916</a>	
		ASSESS your knowledge of polynomial functions through the Birthday Polynomials Project. (Part 1 of 2)		<a href="http://jfmuller.faculty.noctr1.edu/toolbox/examples/engel14/project.pdf">http://jfmuller.faculty.noctr1.edu/toolbox/examples/engel14/project.pdf</a>	
		SHARE your project analysis using Desmos and Explain Everything app. (Part 2 of 2)		<a href="https://www.desmos.com/calculator/dvjxziyao">https://www.desmos.com/calculator/dvjxziyao</a>	
<b>Exploring Rational Functions</b>	In this lesson, students will explore rational functions.	LEARN how to create and graph simple rational functions.		<a href="https://learnzillion.com/lessons/1300-create-and-graph-relationships-using-rational-functions">https://learnzillion.com/lessons/1300-create-and-graph-relationships-using-rational-functions</a>	
		DISCOVER what vertical and horizontal asymptotes are and how to find their equations. (video)		<a href="https://www.khanacademy.org/math/algebra2/rational-expressions/rational-function-graphing/v/horizontal-vertical-asymptotes">https://www.khanacademy.org/math/algebra2/rational-expressions/rational-function-graphing/v/horizontal-vertical-asymptotes</a>	
		EXPLORE how to graph a rational function by using asymptotes. (video)		<a href="https://www.khanacademy.org/math/algebra2/rational-expressions/rational-function-graphing/v/another-rational-function-graph-example">https://www.khanacademy.org/math/algebra2/rational-expressions/rational-function-graphing/v/another-rational-function-graph-example</a>	
		PRACTICE finding equations for asymptotes and excluded values from the equation for a rational function.	Complete Algebra2.N.1	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/rational-functions-asymptotes-and-excluded-values">https://www.ixl.com/math/algebra-2/rational-functions-asymptotes-and-excluded-values</a>
		MATCH rational function equations to their graphs.		<a href="https://www.khanacademy.org/math/algebra2/rational-expressions/rational-function-graphing/e/graphs-of-rational-functions">https://www.khanacademy.org/math/algebra2/rational-expressions/rational-function-graphing/e/graphs-of-rational-functions</a>	
<b>Exploring Inverse Functions</b>	In this lesson, students will explore inverse functions.	LEARN how to find inverses of linear functions. (video)		<a href="http://braingenie.ck12.org/skills/108103">http://braingenie.ck12.org/skills/108103</a>	
		IDENTIFY inverse functions.	Complete IXL activity: Precalculus A.7	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/prec calculus/graph-a-linear-function">https://www.ixl.com/math/prec calculus/graph-a-linear-function</a>

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		FIND values of inverse functions from graphs.	Complete IXL activity: Precalculus A.9	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/prec calculus/linear-functions-over-unit-intervals">https://www.ixl.com/math/prec calculus/linear-functions-over-unit-intervals</a>
		PRACTICE inverse of linear functions.		<a href="https://www.khanacademy.org/math/algebra2/functions_and_graphs/function_inverses_2/e/inverses_of_functions">https://www.khanacademy.org/math/algebra2/functions_and_graphs/function_inverses_2/e/inverses_of_functions</a>	
		ASSESS your ability to find inverses of linear functions graphically.		<a href="http://braingenie.ck12.org/skills/106308">http://braingenie.ck12.org/skills/106308</a>	
		FIND inverses algebraically.		<a href="https://www.khanacademy.org/math/algebra2/functions_and_graphs/function_inverses_2/e/algebraically-finding-inverses">https://www.khanacademy.org/math/algebra2/functions_and_graphs/function_inverses_2/e/algebraically-finding-inverses</a>	
		PRACTICE higher ordered thinking with inverses.		<a href="https://www.khanacademy.org/math/algebra2/functions_and_graphs/function_inverses_2/e/understanding-inverse-functions">https://www.khanacademy.org/math/algebra2/functions_and_graphs/function_inverses_2/e/understanding-inverse-functions</a>	
		ASSESS your ability to find inverses of linear functions algebraically.		<a href="http://braingenie.ck12.org/skills/106309">http://braingenie.ck12.org/skills/106309</a>	
		ASSESS your ability to verify functions are inverses.		<a href="http://braingenie.ck12.org/skills/106311">http://braingenie.ck12.org/skills/106311</a>	
		FIND inverses of nonlinear functions. (video)		<a href="http://braingenie.ck12.org/skills/108104">http://braingenie.ck12.org/skills/108104</a>	
		ASSESS your ability to find inverses of nonlinear functions graphically.		<a href="http://braingenie.ck12.org/skills/106312">http://braingenie.ck12.org/skills/106312</a>	
		ASSESS your ability to find inverses of nonlinear functions algebraically.		<a href="http://braingenie.ck12.org/skills/106313">http://braingenie.ck12.org/skills/106313</a>	
		ASSESS your ability to model and solve inverses word problems.		<a href="http://braingenie.ck12.org/skills/106311">http://braingenie.ck12.org/skills/106311</a>	
<b>Exploring Radical Functions</b>	In this lesson, students will explore radical functions.	LEARN about graphs of radical functions. (video)		<a href="https://www.youtube.com/watch?v=CnH5cs_SpPM">https://www.youtube.com/watch?v=CnH5cs_SpPM</a>	
		PARTICIPATE in this domain of radical functions lesson.		<a href="https://learnzillion.com/lesson_plans/484-understand-the-domain-and-range-of-a-square-root-function-by-using-tables-and-graphs">https://learnzillion.com/lesson_plans/484-understand-the-domain-and-range-of-a-square-root-function-by-using-tables-and-graphs</a>	
		MATCH radical (square root) functions with graphs.		<a href="http://www.khanacademy.org/math/algebra2/functions_and_graphs/shifting-reflecting-functions/e/graphs-of-radical-functions">http://www.khanacademy.org/math/algebra2/functions_and_graphs/shifting-reflecting-functions/e/graphs-of-radical-functions</a>	
		ASSESS your ability to create a square root function given a table of values.		<a href="http://braingenie.ck12.org/skills/106316">http://braingenie.ck12.org/skills/106316</a>	
		ASSESS your ability to create a cube root function given a table of values.		<a href="http://braingenie.ck12.org/skills/106319">http://braingenie.ck12.org/skills/106319</a>	
		ASSESS your ability to graph a square root function.		<a href="http://braingenie.ck12.org/skills/107170">http://braingenie.ck12.org/skills/107170</a>	
		ASSESS your ability to graph a cube root function.		<a href="http://braingenie.ck12.org/skills/106320">http://braingenie.ck12.org/skills/106320</a>	
		EXPLORE radical function application problems. (video)		<a href="http://braingenie.ck12.org/skills/108375">http://braingenie.ck12.org/skills/108375</a>	
		ASSESS your ability to model and solve radical function application problems.		<a href="http://braingenie.ck12.org/skills/107171">http://braingenie.ck12.org/skills/107171</a>	
<b>Exploring Piecewise and Step Functions</b>	In this lesson, students will explore piecewise and step functions.	DISCOVER how to graph piecewise functions. (video)		<a href="http://www.virtualnerd.com/algebra-2/linear-equations-functions/absolute-value-piecewise-functions/piecewise/piecewise-function-graphing">http://www.virtualnerd.com/algebra-2/linear-equations-functions/absolute-value-piecewise-functions/piecewise/piecewise-function-graphing</a>	
		EVALUATE function values from a graph.		<a href="http://braingenie.ck12.org/skills/105860">http://braingenie.ck12.org/skills/105860</a>	

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		CREATE graphs of piecewise functions.		<a href="https://www.khanacademy.org/math/algebra2/functions_and_graphs/piecewise-functions-tutorial/e/piecewise-graphs-linear">https://www.khanacademy.org/math/algebra2/functions_and_graphs/piecewise-functions-tutorial/e/piecewise-graphs-linear</a>	
		DETERMINE the equations that represent the graph of a piecewise function.		<a href="https://www.khanacademy.org/math/algebra2/functions_and_graphs/piecewise-functions-tutorial/e/graphing-piecewise-functions">https://www.khanacademy.org/math/algebra2/functions_and_graphs/piecewise-functions-tutorial/e/graphing-piecewise-functions</a>	
		APPLY function transformations to piecewise functions.		<a href="http://www.utdanacenter.org/k12mathbenchmarks/tasks/12_function.php">http://www.utdanacenter.org/k12mathbenchmarks/tasks/12_function.php</a>	
<b>Exploring Exponential Functions</b>	In this lesson, students will explore exponential functions.	EXPLORE real-world applications for exponential functions. (video)		<a href="https://www.youtube.com/watch?v=xZn4f1ell3g">https://www.youtube.com/watch?v=xZn4f1ell3g</a>	
		WATCH and SUMMARIZE in your notes how to create and graph exponential functions. (video)		<a href="https://learnzillion.com/lessons/1301-create-and-graph-exponentials-using-a-table-of-values">https://learnzillion.com/lessons/1301-create-and-graph-exponentials-using-a-table-of-values</a>	
		ASSESS your ability to graph exponential growth functions.		<a href="http://braingenie.ck12.org/skills/106329">http://braingenie.ck12.org/skills/106329</a>	
		ASSESS your ability to graph exponential decay functions.		<a href="http://braingenie.ck12.org/skills/106334">http://braingenie.ck12.org/skills/106334</a>	
		WATCH and SUMMARIZE in your notes properties of transformations of exponential functions. (video)		<a href="http://braingenie.ck12.org/skills/108112">http://braingenie.ck12.org/skills/108112</a>	
		MATCH exponential functions to graphs.	Complete IXL activity: Algebra2.S.3	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/match-exponential-functions-and-graphs">https://www.ixl.com/math/algebra-2/match-exponential-functions-and-graphs</a>
		ASSESS your ability to identify and apply transformations of exponential functions.		<a href="http://braingenie.ck12.org/skills/106330">http://braingenie.ck12.org/skills/106330</a>	
		CREATE and GRAPH exponential functions from real-world examples (video).		<a href="https://learnzillion.com/lessons/663-create-and-graph-exponentials-using-functions">https://learnzillion.com/lessons/663-create-and-graph-exponentials-using-functions</a>	
		SOLVE exponential growth and decay word problems.	Complete IXL activity: Algebra 2.S.9	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/exponential-functions-over-unit-intervals">https://www.ixl.com/math/algebra-2/exponential-functions-over-unit-intervals</a>
		ASSESS your ability to model and solve exponential growth real-world problems.		<a href="http://braingenie.ck12.org/skills/106331">http://braingenie.ck12.org/skills/106331</a>	
		ASSESS your ability to model and solve exponential decay real-world problems.		<a href="http://braingenie.ck12.org/skills/106336">http://braingenie.ck12.org/skills/106336</a>	
		WATCH the video and SUMMARIZE compound interest in your notes.		<a href="http://braingenie.ck12.org/skills/108120">http://braingenie.ck12.org/skills/108120</a>	
		SOLVE problems involving compound interest.	Complete IXL activity: Algebra 2.S.10	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/identify-linear-and-exponential-functions">https://www.ixl.com/math/algebra-2/identify-linear-and-exponential-functions</a>
		PRACTICE solving problems with continuously compounded interest.	Complete IXL activity: Algebra 2.S.11	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/describe-linear-and-exponential-growth-and-decay">https://www.ixl.com/math/algebra-2/describe-linear-and-exponential-growth-and-decay</a>
		ASSESS your ability to apply exponential functions to compound interest.		<a href="http://braingenie.ck12.org/skills/106343">http://braingenie.ck12.org/skills/106343</a>	
		MODEL the population of an endangered species using exponential functions.		<a href="http://www.utdanacenter.org/k12mathbenchmarks/tasks/3_bighornsheep.php">http://www.utdanacenter.org/k12mathbenchmarks/tasks/3_bighornsheep.php</a>	
		MODEL exponential growth of a bank account using exponential functions. (Part 1 of 3)	Watch the act 1 video	from: <a href="http://threeacts.mrmeyer.com/frysbank/">http://threeacts.mrmeyer.com/frysbank/</a>	fry_act1.mov
		COMPARE your solution. (Part 2 of 3)	Watch the act 3 video	from: <a href="http://threeacts.mrmeyer.com/frysbank/">http://threeacts.mrmeyer.com/frysbank/</a>	fry_act3.mov

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		EXTEND your learning. (Part 3 of 3)	Answer the following questions in the explain. everything app. How long will it take Fry to double his money? How long will it take him to get to a trillion dollars?	<a href="https://teacher.desmos.com/pennycircle">https://teacher.desmos.com/pennycircle</a>	
<b>Exploring Logarithmic Functions</b>	In this lesson, students will explore logarithmic functions.	ANALYZE the following graph to DETERMINE the function that reproduces the graph.	Use the Demos app as your graphing utility.	<a href="http://i0.wp.com/dailydesmos.com/wp-content/uploads/2014/05/Screen-Shot-2014-05-29-at-8.52.31-AM.png">http://i0.wp.com/dailydesmos.com/wp-content/uploads/2014/05/Screen-Shot-2014-05-29-at-8.52.31-AM.png</a>	
		WATCH the video and SUMMARIZE your learning about graphs of logarithmic functions (video).		<a href="https://www.youtube.com/watch?v=d7g0GrQwJsY">https://www.youtube.com/watch?v=d7g0GrQwJsY</a>	
		ASSESS your ability to graph logarithmic functions.		<a href="http://braingenie.ck12.org/skills/106352">http://braingenie.ck12.org/skills/106352</a>	
		EXPLORE applications of logarithmic functions.		<a href="http://www.algebra.com/algebra/homework/logarithm/Using-logarithms-to-solve-real-world-problems.lesson">http://www.algebra.com/algebra/homework/logarithm/Using-logarithms-to-solve-real-world-problems.lesson</a>	
		SOLVE word problems using logarithms (video).		<a href="http://braingenie.ck12.org/skills/108125">http://braingenie.ck12.org/skills/108125</a>	
		ASSESS your ability to solve word problems involving logarithms.		<a href="http://braingenie.ck12.org/skills/106353">http://braingenie.ck12.org/skills/106353</a>	
		READ about and APPLY logarithmic functions to real-world situations.		<a href="http://www.sosmath.com/algebra/logs/log5/log56/log56.html">http://www.sosmath.com/algebra/logs/log5/log56/log56.html</a>	
<b>Exploring Geometric Series</b>	In this lesson, students will explore geometric series.	DISCOVER the origins of a geometric series.		<a href="https://www.khanacademy.org/math/prec calculus/seq_induction/geometric-sequence-series/v/geometric-series-introduction">https://www.khanacademy.org/math/prec calculus/seq_induction/geometric-sequence-series/v/geometric-series-introduction</a>	
		LEARN how to derive the formula for finite geometric series.		<a href="https://www.khanacademy.org/math/algebra2/sequences-and-series/copy-of-geometric-sequence-series/v/example-finding-sum-of-finite-geometric-series">https://www.khanacademy.org/math/algebra2/sequences-and-series/copy-of-geometric-sequence-series/v/example-finding-sum-of-finite-geometric-series</a>	
		FIND sums of finite geometric series.		<a href="http://www.ck12.org/book/CK-12-Algebra-II-with-Trigonometry-Concepts/r3/section/11.10/">http://www.ck12.org/book/CK-12-Algebra-II-with-Trigonometry-Concepts/r3/section/11.10/</a>	
		FIND the sum of a finite geometric series		<a href="https://www.khanacademy.org/math/prec calculus/seq_induction/geometric-sequence-series/e/geometric-series-1">https://www.khanacademy.org/math/prec calculus/seq_induction/geometric-sequence-series/e/geometric-series-1</a>	
		ASSESS your ability to find the sum of a finite geometric series.		<a href="http://braingenie.ck12.org/skills/106576">http://braingenie.ck12.org/skills/106576</a>	

Module 4: Inferences and Conclusions from Data

Module Title	Message	Assignment / Call to Action (200 Character Max)	Content Directions	Resource / URL	Alternative to IOS or Notes
Module 4: Inferences and Conclusions from Data	<p>In this module, you will see how the visual displays and summary statistics that you learned in earlier grades relate to different types of data and to probability distributions. You will identify different ways of collecting data including sample surveys, experiments, and simulations, as well as the role that randomness and careful design play in the conclusions that can be drawn.</p> <p>Focus Standards Addressed in this Module  <a href="#">CC.2.4.HS.B.1</a> - Summarize, represent, and interpret data on a single count or measurement variable.  <a href="#">CC.2.4.HS.B.4</a> - Recognize and evaluate random processes underlying statistical experiments.            CC.2.4.HS.B.5 - Make inferences and justify conclusions based on sample surveys, experiments, and observational studies.</p> <p>SUGGESTED APPS FOR CAPTURING NOTES: Notability (\$2.99) OR PaperPort (FREE).</p> <p>SUGGESTED APPS FOR CREATING PRESENTATIONS: ShowMe (FREE).</p>				
Summarizing, Representing, and Interpreting Data	In this lesson, students will summarize, represent, and interpret data.	DISCOVER the difference between types of data.		<a href="https://www.youtube.com/watch?v=Coe0N2xb8kk">https://www.youtube.com/watch?v=Coe0N2xb8kk</a>	
		DISCOVER various shapes of distributions and the concept of symmetry by watching this video.		<a href="https://learnzillion.com/lessons/2402">https://learnzillion.com/lessons/2402</a>	
		REVIEW finding the mean, median, and mode of a given distribution.		<a href="http://brain genie.ck12.org/skills/106992">http://brain genie.ck12.org/skills/106992</a>	
		ASSESS your ability to find outliers of a given data set.		<a href="http://brain genie.ck12.org/skills/106994">http://brain genie.ck12.org/skills/106994</a>	
Understanding and Evaluating Random Processes Underlying Statistical Experiments	In this lesson, students will understand and evaluate random processes underlying statistical experiments.	EXPLORE types of statistical studies. (video)		<a href="https://www.khanacademy.org/math/probability/statistical-studies/types-of-studies/v/types-statistical-studies">https://www.khanacademy.org/math/probability/statistical-studies/types-of-studies/v/types-statistical-studies</a>	
		DISCOVER how to create a random sample.		<a href="https://learnzillion.com/lessons/2716">https://learnzillion.com/lessons/2716</a>	
		PRACTICE identifying biased samples.	Complete IXL Activity Algebra 2.DD.1	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/identify-biased-samples">https://www.ixl.com/math/algebra-2/identify-biased-samples</a>
		EXPLORE variance and standard deviation.	Complete IXL Activity Algebra 2.DD.2	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/variance-and-standard-deviation">https://www.ixl.com/math/algebra-2/variance-and-standard-deviation</a>
Making Inferences and Justifying Conclusions	In this lesson, students will make inferences and justify conclusions.	LEARN how to use simulation to solve a problem.		<a href="http://www.virtualnerd.com/common-core/hss-statistics-probability/HSS-IC-inferences-conclusions/A/2/simulations-solve-problem-example">http://www.virtualnerd.com/common-core/hss-statistics-probability/HSS-IC-inferences-conclusions/A/2/simulations-solve-problem-example</a>	
		LEARN about surveys, experiments, and observational studies.		<a href="https://www.youtube.com/watch?v=_RCtdmlPmqw">https://www.youtube.com/watch?v=_RCtdmlPmqw</a>	
		EXPLORE the difference between correlation and causality.		<a href="https://www.khanacademy.org/math/probability/statistical-studies/types-of-studies/v/correlation-and-causality">https://www.khanacademy.org/math/probability/statistical-studies/types-of-studies/v/correlation-and-causality</a>	
		APPLY your knowledge to analyze data about seat belt use.		"Click It Data Analysis" PDF in Pennsylvania Learns on iTunes U.	from <a href="http://www.utdanacenter.org/k12mathbenchmarks/downloads/5_clickit.pdf">http://www.utdanacenter.org/k12mathbenchmarks/downloads/5_clickit.pdf</a>
		INVESTIGATE the definition with examples of "Regression."		<a href="https://www.youtube.com/watch?v=TU2t1HDwVuA">https://www.youtube.com/watch?v=TU2t1HDwVuA</a>	
		EXPLORE how to make inferences from data.		<a href="http://www.scholastic.com/data-sampling/">http://www.scholastic.com/data-sampling/</a>	
		FIND z-scores given data.		<a href="http://brain genie.ck12.org/skills/106997">http://brain genie.ck12.org/skills/106997</a>	
		DETERMINE the margin of error in samples.		<a href="http://brain genie.ck12.org/skills/107001">http://brain genie.ck12.org/skills/107001</a>	
		FIND sample size given the margin of error.		<a href="http://brain genie.ck12.org/skills/107002">http://brain genie.ck12.org/skills/107002</a>	

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		CALCULATE probability under the normal curve.		<a href="http://braingenie.ck12.org/skills/106995">http://braingenie.ck12.org/skills/106995</a>	
		INTERPRET normally distributed data.		<a href="http://braingenie.ck12.org/skills/106996">http://braingenie.ck12.org/skills/106996</a>	
		APPLY your knowledge of normal distributions to analyze PSAT scores.		"PSAT Normal Distribution" in <i>Pennsylvania Learns</i> on iTunes U.	from <a href="http://www.utdanacenter.org/k12mathbenchmarks/downloads/15_isyourscorenormal.pdf">http://www.utdanacenter.org/k12mathbenchmarks/downloads/15_isyourscorenormal.pdf</a>
		APPLY properties of inference to estimate a population mean.		<a href="https://www.illustrativemathematics.org/content-standards/HSS/IC/B/4/tasks/1411">https://www.illustrativemathematics.org/content-standards/HSS/IC/B/4/tasks/1411</a>	
Using Probability to Evaluate Outcomes of Decisions	In this lesson, students will use probability to evaluate outcomes of decisions.	LEARN about basic probability concepts.		<a href="https://www.youtube.com/watch?v=otH_MOCdtvo">https://www.youtube.com/watch?v=otH_MOCdtvo</a>	
		LEARN about calculating probability through counting outcomes.		<a href="https://www.khanacademy.org/math/prec calculus/prob_comb/prob_combinatorics_precalc/v/events-and-outcomes-3">https://www.khanacademy.org/math/prec calculus/prob_comb/prob_combinatorics_precalc/v/events-and-outcomes-3</a>	
		INVESTIGATE and PERFORM exercises of probability calculations.		<a href="http://www.mathgoodies.com/lessons/vol6/intro_probability.html">http://www.mathgoodies.com/lessons/vol6/intro_probability.html</a>	
		CALCULATE probabilities of outcomes.		<a href="http://www.mathplanet.com/education/algebra-2/discrete-mathematics-and-probability/probabilities">http://www.mathplanet.com/education/algebra-2/discrete-mathematics-and-probability/probabilities</a>	
		PRACTICE finding probabilities of compound events.		<a href="https://www.google.com/url?sa=t&amp;rct=j&amp;q=&amp;esrc=s&amp;source=web&amp;cd=9&amp;cad=rja&amp;uact=8&amp;ved=0CFIQFjAl&amp;url=http%3A%2F%2Fwww.ixl.com%2Fmath%2Fgrade-6%2Fprobability-of-dependent-and-independent-events&amp;ei=vjD_VMTNKjWXNvSqqegC&amp;usq=AFQjCNGTUMHQ8wUJbSRxERv1tc5NhGUVA">https://www.google.com/url?sa=t&amp;rct=j&amp;q=&amp;esrc=s&amp;source=web&amp;cd=9&amp;cad=rja&amp;uact=8&amp;ved=0CFIQFjAl&amp;url=http%3A%2F%2Fwww.ixl.com%2Fmath%2Fgrade-6%2Fprobability-of-dependent-and-independent-events&amp;ei=vjD_VMTNKjWXNvSqqegC&amp;usq=AFQjCNGTUMHQ8wUJbSRxERv1tc5NhGUVA</a>	
		INVESTIGATE the relationship between probability and odds.		PDF "Odds vs. Probability" in <i>Pennsylvania Learns</i> on iTunes U.	from <a href="http://www.utdanacenter.org/k12mathbenchmarks/tasks/14_howodd.php">http://www.utdanacenter.org/k12mathbenchmarks/tasks/14_howodd.php</a>
		APPLY your knowledge of probability. (Part 1): Watch the first half of video (from 0 - 3:26 time period) to review probability calculation strategies.		<a href="https://www.youtube.com/watch?v=w4hi0OvXZul">https://www.youtube.com/watch?v=w4hi0OvXZul</a>	
		APPLY your knowledge of probability. (Part 2): Perform probability calculations on this video from 3:27 - 3:38 time frame.		<a href="https://www.youtube.com/watch?v=w4hi0OvXZul">https://www.youtube.com/watch?v=w4hi0OvXZul</a>	
		CALCULATE probabilities of events.	Complete IXL Activity Algebra 2.CC.2	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/calculate-probabilities-of-events">https://www.ixl.com/math/algebra-2/calculate-probabilities-of-events</a>
		WATCH the money duck video. (Prologue and Act I)		Prologue <a href="http://www.101qs.com/2985-money-duck">http://www.101qs.com/2985-money-duck</a>	
		ANALYZE different distributions for the Money Duck. (Act II).		"Money Duck Handout" in <i>Pennsylvania Learns</i> on iTunes U.	Downloaded from <a href="http://www.101qs.com/2985-money-duck">http://www.101qs.com/2985-money-duck</a> as Act II
		CHECK your answers. (Act III).		Act III: <a href="http://www.101qs.com/2985-money-duck">http://www.101qs.com/2985-money-duck</a>	
		PRACTICE with combinations and permutations.	Complete IXL Activity Algebra 2.CC.4	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/combinations-and-permutations">https://www.ixl.com/math/algebra-2/combinations-and-permutations</a>
		USE combinations and permutations to find probability.	Complete IXL Activity Algebra 2.CC.5	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/find-probabilities-using-combinations-and-permutations">https://www.ixl.com/math/algebra-2/find-probabilities-using-combinations-and-permutations</a>
		FIND conditional probabilities.	Complete IXL Activity Algebra 2.CC.9	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/find-conditional-probabilities">https://www.ixl.com/math/algebra-2/find-conditional-probabilities</a>
		APPLY the addition rule to find probabilities.	Complete IXL Activity Algebra 2.CC.12	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/find-probabilities-using-the-addition-rule">https://www.ixl.com/math/algebra-2/find-probabilities-using-the-addition-rule</a>
		APPLY decision making to situations involving compound probabilities.		"Compound Probabilities Activity" in <i>Pennsylvania Learns</i> on iTunes U.	from <a href="http://www.utdanacenter.org/k12mathbenchmarks/downloads/23_rolling.pdf">http://www.utdanacenter.org/k12mathbenchmarks/downloads/23_rolling.pdf</a>

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		USE the binomial distribution to find probabilities.	Complete IXL Activity Algebra 2.CC.20	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/find-probabilities-using-the-binomial-distribution">https://www.ixl.com/math/algebra-2/find-probabilities-using-the-binomial-distribution</a>
		PRACTICE finding probabilities using the normal distribution.	Complete IXL Activity Algebra 2.CC.21	<a href="https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8">https://itunes.apple.com/us/app/ixl-math-and-english/id693689912?mt=8</a>	<a href="https://www.ixl.com/math/algebra-2/find-probabilities-using-the-normal-distribution">https://www.ixl.com/math/algebra-2/find-probabilities-using-the-normal-distribution</a>
		ASSESS your ability to find probabilities of compound events.		<a href="https://www.khanacademy.org/math/precalculus/prob_comb/independent_events_pre_calc/e/compound-events">https://www.khanacademy.org/math/precalculus/prob_comb/independent_events_pre_calc/e/compound-events</a>	
		ASSESS your ability to use probability to make predictions.		<a href="https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-theoretical-and-experimental-probability/e/using-probability-to-make-predictions">https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-probability-statistics/cc-7th-theoretical-and-experimental-probability/e/using-probability-to-make-predictions</a>	
		APPLY rules of probability to analyze decisions and strategies.		Fred's Fun Factory task in <i>Pennsylvania Learns</i> on iTunes U.	<a href="https://www.illustrativemathematics.org/content-standards/HSS/MD/B/7/tasks/1197">https://www.illustrativemathematics.org/content-standards/HSS/MD/B/7/tasks/1197</a>
		ANALYZE the game "Rock Paper Scissors" to determine its "fairness" and make observations about possible outcomes.		PDF "Rock Paper Scissors" in <i>Pennsylvania Learns</i> on iTunes U.	from <a href="http://www.utdanacenter.org/k12mathbenchmarks/downloads/22_rockpaper.pdf">http://www.utdanacenter.org/k12mathbenchmarks/downloads/22_rockpaper.pdf</a>
		APPLY assigning probabilities to payoff values and FIND expected values.		"Sounds Really Good" task in <i>Pennsylvania Learns</i> on iTunes U.	<a href="https://www.illustrativemathematics.org/content-standards/HSS/MD/B/5/tasks/1217">https://www.illustrativemathematics.org/content-standards/HSS/MD/B/5/tasks/1217</a>

TEACHER RESOURCES

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<b>Module 1</b>	In this lesson, you will explore complex number operations.	APPLY what you have learned about complex numbers to real-world situations.	<a href="http://community.lesonplanet.com/t/real-world-applications-to-imaginary-and-complex-numbers/976">http://community.lesonplanet.com/t/real-world-applications-to-imaginary-and-complex-numbers/976</a>	Teacher Resource to design an application project.
	In this lesson, you will extend and apply your knowledge of quadratic equations.	APPLY and ASSESS your understanding of quadratic equations through the "Cutting Corners" investigation activity.	<a href="http://map.mathshell.org/materials/lessons.php?taskid=432&amp;subpage=problem">http://map.mathshell.org/materials/lessons.php?taskid=432&amp;subpage=problem</a>	Teacher Resources to assign the "Cutting Corners" Project
	In this lesson, you will explore polynomial operations and vocabulary.	INVESTIGATE rules for polynomial operations through the Golden Ticket Activity.	<a href="http://www.cpalms.org/Public/PreviewResource/Preview/47832">http://www.cpalms.org/Public/PreviewResource/Preview/47832</a>	Teacher Resource for the activity with handouts and teacher directions.
<b>Module 2</b>	In this lesson, you will explore the unit circle.	APPLY the unit circle to the formation of the sine and cosine curves.	<a href="http://illuminations.nctm.org/Lesson.aspx?id=2870">http://illuminations.nctm.org/Lesson.aspx?id=2870</a>	
<b>Module 3</b>	In this lesson, you will explore absolute value functions.	APPLY your understanding of absolute value to a "Guess the Number of Jelly Beans" activity.	<a href="https://growingexponentially.wordpress.com/2013/03/18/absolute-value-project/">https://growingexponentially.wordpress.com/2013/03/18/absolute-value-project/</a>	Teacher Resource  Teacher can get a sample project from website
	In this lesson, you will explore rational functions.	EXPLORE what a rational function is and some of its applications.	<a href="http://illuminations.nctm.org/Lesson.aspx?id=1968">http://illuminations.nctm.org/Lesson.aspx?id=1968</a>	
	In this lesson, you will explore exponential functions.	APPLY your knowledge of linear, quadratic, and exponential functions to model the rate of cooling.	<a href="http://illuminations.nctm.org/Lesson.aspx?id=3180">http://illuminations.nctm.org/Lesson.aspx?id=3180</a>	

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	In this lesson, students will explore quadratic functions.	DEVELOP a basic understanding of quadratic function graphs by exploring shapes and asking questions of a partner.	<a href="https://teacher.desmos.com/polygraph-parabolas">https://teacher.desmos.com/polygraph-parabolas</a>	

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<b>Module 2</b>	
<b>Module 3</b>	

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