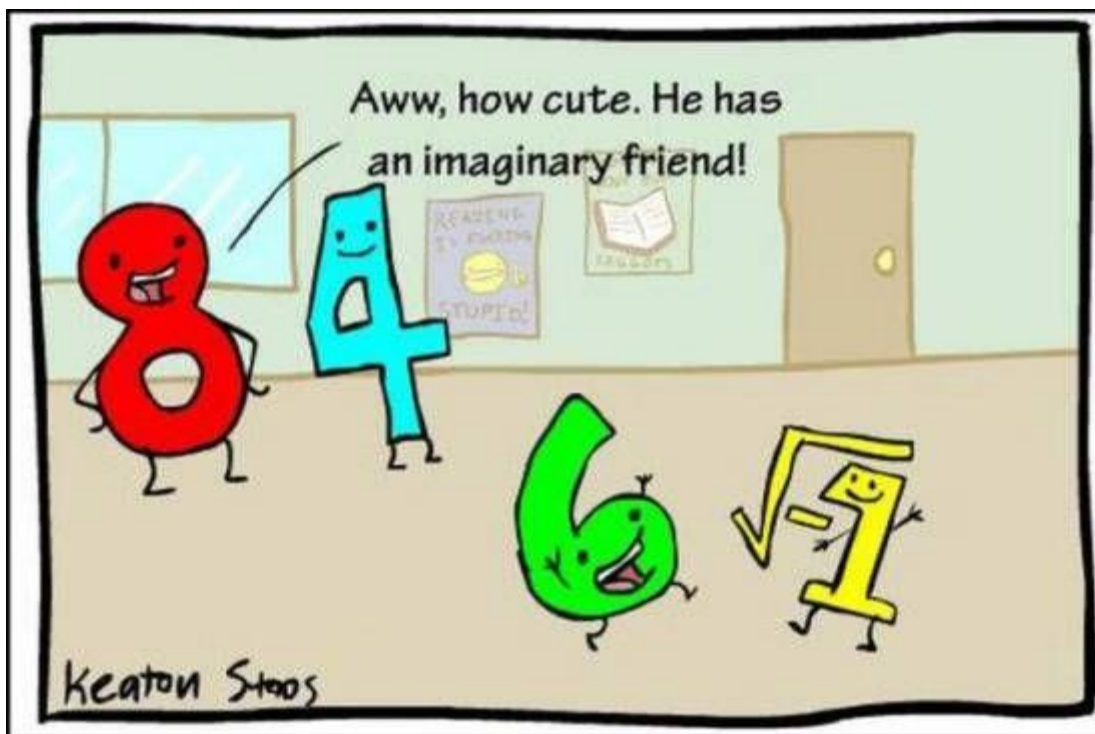


Name: _____

Algebra II

(1/22-2/15)



"Pure Mathematics is, in its way, the poetry of logical ideas."

– Albert Einstein

Overview:

Welcome to Quarter Three! The next month will be all about quadratic equations: tips on dealing with factors of special products, converting from standard form to vertex form by completing the square, and if all else fails, the world famous quadratic formula. We will also take some time to introduce ourselves to imaginary numbers. By the end of this unit, you will be masters of the quadratic equation!

Reminders:

- No late work will be accepted from this point forward.
- **Individual Work:** Show all your steps on how you get to your answer! I will take points off for no work.
- **IXL:** If you choose to achieve proficiency on 3 skills, you must work on your skills for at least 30min.

Lessons:

Content Lesson Themes

- _____ Factoring Special Products
- _____ 4.5: Solve Quadratic Equations by Using Square Roots
- _____ 4.6: Operations with Complex Numbers
- _____ 4.7: Complete the Square
- _____ 4.8: Use the Quadratic Formula and the Discriminant

Assignments	Due Date (BoC)
<p>1/22-1/25:</p> <p>Guiding Question: Now that we know the most general way to factor a quadratic equation, what are some “special” factors to look for?</p> <p>_____ 1) Vocabulary: parabola, vertex, axis of symmetry, vertex form, intercept form, monomial, binomial, factor, radical, rationalizing a denominator, conjugate, imaginary unit, complex number, complex plane, quadratic formula, discriminant(do one of the below).</p> <ul style="list-style-type: none"> a. Graphic Organizer b. Mind Map c. Vocabulary Cards <p>_____ Lesson: Factoring Special Products</p> <p>_____ 2) Individual Work: Factoring Special Products Worksheet</p> <p>_____ 3) IXL: Achieve proficiency in 3 skills (smart-score of 80) OR spend 1-hour total for the week. You may work either in:</p> <ul style="list-style-type: none"> a. Recommended Tab (AT LEAST 9th grade level!) b. Algebra II: J.1-J.6 (Properties of Parabolas, Finding “zeroes”) 	<p style="text-align: center;">Thurs, 1/24</p> <p style="text-align: center;">Mon, 1/29</p> <p style="text-align: center;">Mon, 1/29</p>
<p>1/28-1/31: This is an early dismissal week. Classes will be held for 1 hour on Mon/Wed.</p> <p>Guiding Question: How can we solve more simple quadratic equations, and how do we deal with taking the square root of negative numbers?</p> <p>_____ Khan Academy Lesson: These videos will cover concepts from 4.5. Take notes for future reference.</p> <ul style="list-style-type: none"> a. Review: Introduction to Square Roots (Optional) b. Review: Square Roots and Real Numbers (0:00-4:00) (Optional) c. How to Rationalize a Denominator d. Solve Quadratics by Taking the Square Root (two videos) <p>_____ 4) Problem Set – 4.5: p.269 #'s 3-17 odds, 23-31 odds</p> <p>_____ Khan Academy Lesson: These videos will cover concepts from 4.6. Take notes for future reference.</p> <ul style="list-style-type: none"> a. Intro to Complex Numbers b. Operations with Complex Numbers c. Absolute Value of a Complex Number 	<p style="text-align: center;">Wed, 1/30</p>

<p>___ 5) Problem Set – 4.6: p.279 #'s 3, 5, 7, 13-29 odds, 35-45 odds, 51</p> <p>___ 6) IXL: Achieve proficiency in 3 skills (smart-score of 80) OR spend 1-hour total for the week. You may work either in:</p> <p style="padding-left: 40px;">a. Recommended Tab (AT LEAST 9th grade level!)</p> <p style="padding-left: 40px;">b. Algebra II: J.4, H.1-H.7, L.8-L.11 Solving for Squared Variables, Complex Numbers, Radicals</p>	<p>Mon, 2/4</p> <p>Mon, 2/4</p>
<p>2/4-2/8:</p> <p>Guiding Question: How do we convert a quadratic equation from standard form to vertex form, and what do we do when none of our factoring techniques work?</p> <p>___ 7) QUIZ: Factoring Special Products, 4.5: Solve Quadratic Equations Using Square Roots, 4.6: Operations With Complex Numbers</p> <p>___ Lesson/Activity: 4.7: Complete the Square</p> <p>___ 8) Problem Set – 4.7: p.288 #'s 3, 5, 7, 13, 15, 23-29 odds, 35, 39</p> <p>___ Lesson: 4.8: Use the Quadratic Formula and the Discriminant</p> <p>___ 9) Assignment: Create a poem, song, or saying to remember the quadratic formula. If you create a song, submit the lyrics. The problems below should be attached as well. Problem Set- p.296 #'s 3, 5, 7, 13, 15</p>	<p>Monday (Beginning of Class)</p> <p>Thurs, 2/5</p> <p>Mon, 2/11</p>
<p>2/11-2/15:</p> <p>Guiding Question: What is a lesser-known application of the quadratic equation?</p> <p>___ 10) Group Activity: The Hardy-Weinberg Law: Explore the genetics behind attached and dis-attached earlobes using the above law, stated both as a quadratic equation in standard and factored form.</p> <p>___ 8) QUIZ: 4.7: Complete the Square, 4.8: Use the Quadratic Formula</p>	<p>Thurs, 2/14</p> <p>Thurs, 2/14 (Beginning of Class)</p>