Edwards' Syllabus ☺ 2019-2020 ☺ Name_____ ☺ Block_____

Algebra 2 Unit 2B: Quadratic Functions and Relations

HOMEWORK POLICY: *In order to receive a 3, you must do the following (.5 off for each objective not completed):*

1) Write your name and date along with the assignment in the top margin. All of your work must be done in pencil or a black pen.
2) Copy each problem. If you have to do any graphing, it must be done on graph paper.
3) Every problem must be attempted to the best of your ability. Use the internet (Khan Academy) if you have problems understanding.
4) All algebraic work must be shown, and it should be neat and organized (hint: circle or underline your answers).
5) All worksheets should be checked and fully corrected using a **red pen** before coming to class. Go to **cindyedwards.weebly.com.**

DATE	DAILY LEARNING TARGETS & OBJECTIVES	INDEPENDENT PRACTICE (HOMEWORK)	GRADE
Friday, Nov. 1 ***Day 00***	**Test on Unit 2A**	1st Quarter Reflection on Schoology	3
Wednesday, Nov. 6 ***Day 01***	Solving Quadratic Equations by Graphing & Factoring	Day 01 Solving Quadratic Equations by Graphing & Factoring	3
Friday, Nov. 8 ***Day 02***	Complex Numbers	Day 02 Complex Numbers Practice #1	3
Tuesday, Nov. 13 ***Day 03***	Review *Complex Numbers* ***ADVISORY DAY: Adjusted schedule***	Day 03 Complex Numbers Practice #2	3
Thursday, Nov. 15 ***Day 04***	Solving Quadratics Using Square Roots	Day 04 Solving Quadratics Using Square Roots	3
Tuesday, Nov. 19 ***Day 05***	The Quadratic Formula and the Discriminant	Day 05 Solving Quadratics using the Quadratic Formula	3
Thursday, Nov. 21 ***Day 06***	Writing Quadratic Equations in Standard Form	Day 06 Writing Quadratic Functions	3
Monday, Nov. 25 ***Day 07***	Writing Quadratic Equations in Standard Form Solving Linear-Nonlinear Systems Graphically	Day 07 Solving Linear-Nonlinear Systems Graphically	3
Wednesday, Nov. 27 ***Day 08***	Solving Linear-Nonlinear Systems Algebraically **ADJUSTED DISMISSAL FOR THANKSGIVING**	Day 08 Solving Linear-Nonlinear Systems Algebraically	3
Tuesday, Dec. 3 ***Day 09***	Unit 2B Test Review	Day 07 Unit 2B Test Review Worksheet	3
Thursday, Dec. 5 ***Day 10***	**Test on Unit 2B: Quadratic Functions and Relations**	**TOTAL POINTS:**	30

2B LEARNING TARGETS:

Target 1: I CAN **solve** quadratic equations over the set of real numbers by factoring.

Target 2: I CAN **simplify** an expression containing complex numbers and or radicals.

Target 3: I CAN **solve** a quadratic equation over the set of complex numbers using the most efficient method (Factoring, square roots, or the quadratic formula).

Target 4: I CAN **write** a quadratic equation in any form given a combination of its parts.

Target 5: I CAN **solve** non-linear systems of equations algebraically and graphically.

Transfer Goal	
M.1: Make meaning of complex mathematical problems utilizing strategic thinking and reasoning while demonstrating perseverance	
Enduring Understandings	**Essential Questions**
• A graph can be classified by its key characteristics into different function families. • The complete factorization of polynomials has occurred when each factor is a prime polynomial. • The roots or zeros of a function are the same as the x-intercepts of the associated graph. • Equations having no real number solutions may have solutions in the set of complex numbers. • Solutions of a nonlinear system of equations are numerical values that satisfy every equation in the system**.**	• How can we use multiple representations to describe quadratics? How do the different representations connect? • What is a difference of two squares, a perfect square trinomial, or the trial and error method for factoring? What does the discriminant say about the roots of a quadratic equation? • How are the zeros of a quadratic function determined algebraically and graphically? And how do these zeros relate to the factorization of the associated polynomial? • How does complex numbers alter the understanding of quadratics? • What are the methods for solving systems and what are the advantages and disadvantages of each?

SOL OBJECTIVES (2016):

AII.1 The student will
c) factor polynomials completely in one or two variables.

AII.2 The student will perform operations on complex numbers and express the results in simplest form using patterns of the powers of *i.*

AII.3 The student will solve
b) quadratic equations over the set of complex numbers;

AII.4 The student will solve systems of linear-quadratic and quadratic-quadratic equations, algebraically and graphically.

AII.7 The student will investigate and analyze linear, **quadratic**, absolute value, square root, cube root, rational, polynomial, exponential, and logarithmic function families algebraically and graphically. Key concepts include
a) domain, range, and continuity;
b) intervals in which a function is increasing or decreasing;
c) zeros;
d) intercepts;
e) values of a function for elements in its domain;
f) connections between and among multiple representations of functions using verbal descriptions, tables, equations, and graphs;

AII.8 The student will investigate and describe the relationships among solutions of an equation, zeros of a function, *x*-intercepts of a graph, and factors of a polynomial expression.