Edwards' Syllabus ☺ 2019-2020 ☺ Name_____ ☺Block_____

Algebra 2 Unit 3 - Polynomials & Polynomial Functions

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 any graphing to do, 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
Monday, Dec. 9 ***Day 00***	Test on Unit 2B	Day 00 Operations with Polynomials Practice	_/3
Wednesday, Dec. 11 ***Day 01***	Operations with Polynomials Dividing Polynomials (Synthetic Division) **ADVISORY – CAV CONNECTION (Adjusted Schedule)**	Day 01 Dividing Polynomials Practice	_/3
Friday, Dec. 13 ***Day 02***	*Operations with Polynomials Review – **SUB TODAY!*** *Adding, Subtracting, Multiplying, & Dividing* ***PROGRESS REPORTS ISSUED DECEMBER 13***	Day 02 Operations with Polynomials Practice #2 ***QUIZ NEXT BLOCK on Targets 1 & 2***	_/3
Tuesday, Dec. 17 ***Day 03***	Polynomial Functions and End Behavior **Quiz on Targets 1 & 2**	Day 03 Polynomial Funct. & End Behavior Practice	_/3
Thursday, Dec. 19 ***Day 04***	**Introduction to Desmos Project – Work in Class**	***NO HOMEWORK: PHASE 1 DUE JANUARY 15!***	
	 Winter Break: December 21 -January 2 First day back: Thursday, January 2 (A Day)	 	
Thursday, Jan. 2 ***Day 05***	Analyzing Graphs of Polynomial Functions	Day 05 Analyzing Graphs of Polynomial Functions	_/3
Monday, Jan. 6 ***Day 06***	Solving Polynomial Equations by Factoring Sum and Difference of Cubes	Day 06 Solving Polynomials by Factoring Practice	_/3
Wednesday, Jan 8 ***Day 07***	The Remainder and Factor Theorem Roots and Zeros	Day 07 Roots and Zeros Practice	_/3
Friday, Jan 10 ***Day 08***	Writing Equations of Polynomial Functions	Day 08 Writing Equations of Polynomial Functions ***Both due by January 10***	_/3
Tuesday, Jan. 14 ***Day 09***	Unit 3 Review	Day 09 Unit 3 Test Review Worksheet	_/3
Thursday, Jan. 16 ***Day 10***	**Test on Unit 3**	**TOTAL POINTS:**	_____/24

LEARNING TARGETS	
Target 1	I CAN **simplify** polynomial expressions and **apply** the properties of exponents.
Target 2	I CAN **divide** polynomials using synthetic division and **apply** the properties of the Remainder and Factor Theorems.
Target 3	I CAN **describe** the characteristics and behavior of a polynomial function given its graph.
Target 4	I CAN **write** the equation of a polynomial function given its zeros/roots or graph.
Target 5	I CAN **solve** a higher degree polynomial equation over the set of complex numbers by factoring to include the sum and difference of cubes.
Target 6	I CAN **find** the zeros of a higher degree polynomial function over the set of complex numbers using the process of depressing a polynomial.

BIG IDEAS/ENDURING UNDERSTANDINGS

1. The solutions of a polynomial equation are the zeros/roots of its related function.
2. A positive exponent means you multiplying the base that number of times.
3. A negative exponent means you are dividing by the base that number of times.
4. The complete factorization of polynomials has occurred when each factor is a prime polynomial.
5. A function can be described on an interval as increasing, decreasing, or constant.
6. End behavior describes a function as x approaches positive and negative infinity.

ESSENTIAL QUESTIONS: Be ready to do an essay on any of these questions on the test day!

1. Which real-life situations can be modeled by a polynomial function?
2. In what ways are the degree, function parameters, zeros/roots, and extrema (terrace, tangents, local max and min) related to the behavior of a polynomial function?
3. What is a negative exponent and how does it apply to scientific notation?

SOL OBJECTIVES (2016):

AII.1 The student will
- a) add, subtract, multiply, divide, and simplify rational algebraic expressions;
- b) add, subtract, multiply, divide, and simplify radical expressions containing rational numbers and variables, and expressions containing rational exponents; and
- c) factor polynomials completely in one or two variables.

AII.6 For absolute value, square root, cube root, rational, polynomial, exponential, and logarithmic functions, the student will
- a) recognize the general shape of function families; and
- b) use knowledge of transformations to convert between equations and the corresponding graphs of functions.

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) extrema;
- d) zeros;
- e) intercepts;
- f) values of a function for elements in its domain;
- g) connections between and among multiple representations of functions using verbal descriptions, tables, equations, and graphs;
- h) end behavior;

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.

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