

IB MYP Algebra 2 & Trigonometry

Unit 3: Polynomial Functions and Equations

2nd Quarter ♦ 2016-2017

DATE	TOPIC	TEXT REFERENCE	ASSIGNMENT	Recommended Additional Practice	PA#
November 17 (Th – A) <i>Adjusted Schedule – Collab./CAV Connection Day 1</i>	Properties of Exponents and Operations with Polynomials	6-1	Prepare for the Unit 2B TEST	IXL Alg 2 – K.2, K.3	PA2
November 21 (M – A)	SUMMATIVE ASSESSMENT – Unit 2: Quadratic Functions and Equations	Chapter 5	Properties of Exponents WS	IXL Alg 2 – K.2, K.3	PA3
November 23 (W – A) <i>Adjusted Dismissal - Thanksgiving Day 2</i>	Polynomial Functions and End Behavior	6-3	Have a Happy Thanksgiving!	Text p. 352-353 (13-41 odd) IXL Alg 2 – K.14	PA4
<p><i>No School: November 24(Th) - 25(F), 2016 – Thanksgiving Holidays</i></p> <p><i>Happy Thanksgiving!</i></p> <p><i>Return to school on Monday, November 28, 2016 (B Day)</i></p>					
November 29 (Tu – A) <i>Day 3</i>	Analyzing Graphs of Polynomial Functions	6-4	Day 1 HW WS: 1-4 Day 3 WS: Finish 1-6	IXL Alg 2 – K.8, K. 9, K.14	PA5
December 1 (Th – A) <i>Day 4</i>	Polynomial Division: Long Division and Synthetic Division	6-2	Day 3 WS: 7-10 Day 4 WS: 1-6	IXL Alg 2 – K.4, K.5, K.6	PA6
December 5 (M – A) <i>Day 5</i>	Sum and Difference of Cubes Solving Polynomial Equations by Factoring	6-5	Day 4 HW WS p. 11: 1-5 Day 5 HW WS: 1-18	IXL Alg 2 – I.4, I.5, I.6, I.7, K.7	PA7
December 7 (W – A) <i>Day 6</i>	Roots and Zeros of Polynomial Functions	6-6 6-7	Day 5 HW WS: 19-27 Day 6 WS: Finish 1-18	Text p. 394 (27-35 odd)	PA8
December 9 (F – A) <i>Day 7</i>	Polynomial Functions Review	6-1-6-7	Day 4 HW WS p. 12: 1-6 Day 7 HW WS: 1-10		PA9
December 13 (Tu – A) <i>Day 8</i>	Unit 3 Review	6-1-6-7	Complete the Unit 3 Review AND CHECK IT BEFORE NEXT CLASS using the key posted in Google Classroom.		PA10
December 15 (Th – A) <i>Progress Reports Issued Day 9</i>	SUMMATIVE ASSESSMENT – Unit 3: Polynomials and Polynomial Functions	6-1-6-7	p. 420-421 (13-35 odd, 43-47 odd, 49)		PA11

Unit 3 Overview

Students will study polynomial equations in various forms, find the roots of polynomial equations using a variety of methods, and define complex numbers and operations with complex numbers. Students will find polynomial functions that fit a set of data, identify features of the graph of a polynomial function and use division and other strategies to find roots of higher-degree polynomials.

Unit 3 Virginia Standards of Learning

A11/T.1 The student, given polynomial expressions, will add, subtract, multiply divide, simplify, factor completely, and evaluate polynomial expressions.

A11/T.4 The student will solve, algebraically and graphically,
 a) absolute value equations and inequalities;
 b) quadratic equations over the set of complex numbers;
 c) equations containing rational algebraic expressions; and
 d) equations containing radical expressions.

Graphing calculators will be used for solving and for confirming the algebraic solutions.

A11/T.5 The student will solve nonlinear systems of equations, including linear-quadratic and quadratic, algebraically and graphically. Graphing calculators will be used as a tool to visualize graphs and predict the number of solutions.

The BIG Ideas for Unit 3 are . . .

- Function models of real life relationships enable predictions to be made.
- The parameters of a function relate to the transformation of the graph.
- The solutions of a polynomial equation are the zeros/roots of its related function.

Unit 3 Essential Questions

Be sure to answer these questions as we progress through the unit. Some or all of them will be used as essay questions on your unit test. 😊

- Which real-life situations can be modeled by a polynomial function?
- In what ways are the degree, function parameters, zeros/roots, and extrema related to the behavior of a polynomial function?
- How does one decide which method to solve a polynomial equation is best, and why is it valuable to learn a variety of methods for solving?

Unit 3 Learning Targets		<i>Skill Mastered</i> ✓	<i>Summative Assessment Score (points)</i>	<i>Summative Assessment %</i>
Learning Target A	I can simplify polynomial expressions and apply the properties of exponents.			
Learning Target B	I can divide polynomials using polynomial long division and synthetic division and apply the properties of the Remainder and Factor Theorems.			
Learning Target C	I can describe the characteristics and behavior of a polynomial function given its graph.			
Learning Target D	I can write the equation of a polynomial function given its zeros/roots or graph.			
Learning Target E	I can solve a higher degree polynomial equation over the set of complex numbers by factoring.			
Learning Target F	I can find the zeros of a higher degree polynomial function over the set of complex numbers using the process of depressing a polynomial.			