

IB MYP Algebra 2 & Trigonometry

Unit 2B: Quadratic Functions and Equations

1st Quarter ♦ 2016-2017

IBMYP Statement of Inquiry: Many real-life patterns have a parabolic form, which can be represented and explored using a quadratic model.

DATE	TOPIC	TEXT REFERENCE	ASSIGNMENT	PA#
October 28 (F) <i>Day 10</i>	<ul style="list-style-type: none"> Solving Quadratic Equations using Square Roots Complex Numbers 	5-4	p. 280-281 (19-41 odd, 49-59 odd, 61)	PA18
November 1 (Tu) <i>Day 11</i>	<ul style="list-style-type: none"> Solving Quadratic Equations using Square Roots: Completing the Square 	5-5	Completing the Square HW WS	PA19
November 3 (Th) <i>Day 12</i>	<ul style="list-style-type: none"> Solving Quadratic Equations using the Quadratic Formula Predicting the Nature of the Roots using the Discriminant 	5-6	Quadratic Formula Practice WS	PA20
November 7 (M) <i>Last Day of 1st Quarter Day 13</i>	<ul style="list-style-type: none"> Writing Quadratic Functions 	5-7	Writing Quadratic Functions HW WS	PA21
November 8 (Tu): Election Day/Staff Day – No School for Students				
November 10 (Th) <i>First A-Day of 2nd Quarter Day 14</i>	<ul style="list-style-type: none"> Solving Non-Linear Systems 	10-7	Solving Non-Linear Systems WS	PA1
November 11 (F): Veterans' Day Holiday – No School				
November 15 (Tu) <i>Report Cards Issued Day 15</i>	<ul style="list-style-type: none"> Unit 2B Review 		Complete the Unit 2B Review WS and check it using the posted key	PA2
November 17 (Th) <i>Adjusted Schedule – Collaboration Day and CAV Connection</i>	Unit 3, Day 1 <ul style="list-style-type: none"> Properties of Exponents and Operations with Polynomials 	6-1	Prepare for the Unit 2B TEST	PA3
November 21 (M – A) <i>Day 16</i>	<ul style="list-style-type: none"> Unit 2B ASSESSMENT: Quadratic Functions and Equations 		Properties of Exponents and Operations with Polynomials WS	PA4

Unit 2 Overview

Students will identify and sketch graphs of parent functions and find domains and ranges of functions including linear, piecewise, greatest integer and absolute value functions. Students will then be able to graph these functions using transformations. Students will also graph linear, square, and absolute value inequalities.

The BIG Ideas for Unit 2 are ...

- Mathematical models are generated from investigating real life patterns.
- Function *models* of real life relationships enable predictions to be made.
- The parameters of a function relate to the transformations of the graph.

Unit 2 Virginia Standards of Learning

AII/T.4 The students will solve, algebraically and graphically,

- a. Absolute value equations and inequalities

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

AII/T.6 The students will recognize the general shape of function families (absolute value, square root, cube root, rational, polynomial, exponential, and logarithmic) and will convert between graphic and symbolic forms of functions. A transformational approach to graphing will be employed.

AII/T.7 The students will investigate and analyze functions algebraically and graphically. Key concepts include

- a. Domain and range, including limited and discontinuous domains and ranges.

Unit 2 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 assessment. ☺

- How can patterns be used to make predictions?
- How do the parameters of a function relate to the transformations of its graph?
- How can I tell which type of function and algebraic representation could match the graph of data?
- How do I know if I have enough information to draw a valid conclusion?

Unit 2B Learning Targets		Skill Mastered ✓	Summative Assessment Score (points)	Summative Assessment %
Learning Target A	I can simplify an expression containing complex numbers and or radicals.			
Learning Target B	I can solve a quadratic equation over the set of complex numbers using the most efficient method (graphing, factoring, square roots (completing the square), quadratic formula).			
Learning Target C	I can write a quadratic equation given a combination of its parts.			
Learning Target D	I can solve a non-linear system of equations algebraically and graphically.			
Learning Target E	I can answer the unit essential questions and related questions.			