Course Title: Algebra IB
Board Approval Date: January 17, 2019
Credit / Hours: 1.0

Course Description:

Algebra 1B focuses on mastery of Module 2 of the PA Core Standards for Mathematics. Algebra 1B aims to improve students abilities in the areas of functions, coordinate geometry, and data analysis. The focus is on analyzing relations, interpreting linear functions, using measures of dispersions and graphs of a set of data, applying the concepts of coordinate geometry and finding probability of practical situations and using that information to make predictions.

Learning Activities / Modes of Assessment:

ALEKS	Stations
Pre - tests	Scavenger Hunts
Teacher Observation	Nearpod
Kahoot, Quizizz and Quizlet	Edpuzzles
Notability	Flipgrid
Bell Ringers	CDTS
Exit Tickets	Multiple Choice Keystone Questions
Collaborative Projects	Constructed Response Questions
Small Group	Math Libs
Whole Group	Task Cards
Partner Work	Schoology Assignments
Whiteboard Practice	Error Analysis
Review Games	Self-checking with answer key
Desmos Activities	Word Problems- real world application
GeoGebra	Quizzes
Think-Pair-Share	Tests

Instructional Resources:

ALEKS
Desmos
Keystone Coach Book (Red and Blue)
SAS
Online Practice Tools
Khan Academy
IXL
Teachers Pay Teachers
Teacher created resources
Kuta Software
Instructional Multimedia Tools

Curriculum: Math
Course: Grade 9 Algebra IB

Unit/Lesson: Polynomials and Factoring

Know:	Understand:	Do:
A1.1.1.5 Simplify expressions involving polynomials. A1.1.1.2 Apply number theory concepts to show relationships between real numbers in problem-solving settings.	*Students will understand that…* ● You must always look for a gcf first when factoring ● There are different ways to factor based on the structure of the polynomials ● Polynomials and rational expressions can be simplified using operations ● Factoring can be used to simplify rational expressions ● Multiplying polynomials and factoring are opposites	A1.1.1.5.1 - Add, subtract, and/or multiply polynomial expressions (express answers in simplest form) A1.1.1.5.2 - Factor algebraic expressions, including difference of squares and trinomials A1.1.1.5.3 - Simplify/reduce a rational algebraic expression A1.1.1.2.1 - Find the greatest common factor and/or the least common multiple for sets of monomials.

Unit/Lesson: Exponents and Radicals

Know:	Understand:	Do:
A1.1.1.1 Represent and/or use numbers in equivalent forms (e.g., integers, fractions, decimals, percents, square roots, and exponents). A1.1.1.3 Use exponents, roots, and/or absolute values to solve problems.	*Students will understand that...* ● Simplified answers should not contain negative or zero exponents ● Expressions are not fully simplified until there is one of each variable ● Radicals are not fully simplified until nothing else can be factored out from the radical	A1.1.1.1.2 - Simplify square roots A1.1.1.3.1 - Simplify/evaluate expressions involving properties/laws of exponents, roots, and/or absolute values to solve problems

Unit/Lesson: Data Analysis

Know:	Understand:	Do:
A1.2.3.1 Use measures of dispersion to describe a set of data. A1.2.3.2 Use data displays in problem- solving settings and/or to make predictions. A1.2.3.3 Apply probability to practical situations.	*Students will understand that...* ● Depending on the data, different central tendencies are more representative ● A box and whisker plot separates the data into four equal portions ● Probability can be represented as a decimal, fraction or percent ● You can find missing information from different representations of graphs ● You can predict information from different representations of graphs	A1.2.3.1.1 Calculate and/or interpret the range, quartiles, and interquartile range of data. A1.2.3.2.1 Estimate or calculate to make predictions based on a circle, line, bar graph, measure of central tendency, or other representation. A1.2.3.2.2 Analyze data, make predictions, and/or answer questions based on displayed data (box-and- whisker plots, stem-and-leaf plots, scatter plots, measures of central tendency, or other representations). A1.2.3.2.3 Make predictions using the equations or graphs of best-fit lines of scatter plots. A1.2.3.3.1 Find probabilities for compound events (e.g., find probability of red and blue, find probability of red or blue) and represent as a fraction, decimal, or percent.

Algebra 1B Pacing Guide

Course:

Course Unit (Topic)	**Length of Instruction (Class Periods)**
Polynomials and Factoring	19 Days
Exponents, Rational and Radical Expressions	22 Days
Data Analysis	19 Days
Keystone Review	30 Days
Total	**90 Days**