

Class Syllabus & Information

Advanced Algebra

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Peter de Vry

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Contacting me:

email is the best way to contact me pdevry@pps.net

In person I can be found in one of the portables, most likely 1B or 2B

I am available lunch every day and after school on Thursdays in portable 1B

What we'll study:

See proficiency details on page 3.

Required Materials:

Textbook: CPM: Algebra 2 Connections

Quad ruled graph paper for homework

Quad ruled book/folder for classwork

Graphing Calculator (TI-83, TI-84, TI-89, TI-Nspire)

Pencils, erasers, pens, and ruler

Behavioral expectations:

0. You are to follow all school rules.

1. You are expected to contribute to your learning and the learning of others.

2. You are expected to treat each other with respect, dignity, and trust.

3. You will do your best work.

Grading:

Your grade is based on demonstrated proficiency. See page 2.

Daily Work:

Doing the in-class work is essential for your success in this class. There are many ways to avoid doing the work. All of them are harmful to your learning. Just do the work.

Regular math practice outside of class is critical to learning mathematics, but spending more than 20-30 minutes per class on homework may indicate that *you need to get extra help*: ... from the instructor, friends, parents or other adults, tutoring as available at Lincoln. Form a study group

Homework will be assigned most periods and collected the following period. Homework is scored for effort. Showing all work is necessary for full points. You must have completed at least 80% of your homework to be eligible for retakes.

On Line Resources:

www.kowhai.com for everything you need to know about your assignments, and their completion and grade, can be found on this web site. There are also copies of this document, links to math related sites, and lists of math tutors.

online gradebook **tba**.

www.cpm.org for resources to accompany the textbook.

The Proficiency Grading System

In a proficiency-based grading system you have an overall set of Topics (Learning Targets aka LTs) to master for the semester. Grades are based solely on demonstration of mastery. Demonstration of mastery is through formal assessment. Any assessment, other than the final exam, may be retaken, but you must first demonstrate you have prepared to do better.

Proficiency Scoring:

Each skill evaluated in each assessment is graded on a 7 point scale. Your final grade is calculated from the median of your last three assessments. You do not get a single score per assessment. You get a score on each skill tested in an assessment. There will usually be more than one skill being evaluated in each assessment. An assessment will usually be a test, but could be in another form.

Assessment scores are based on this 7 point scale.

7 = In addition to score 6 performance, demonstration of inferences and applications that go beyond what was taught

6 = In addition to score 5 performance, partial demonstration of inferences/applications that go beyond what was taught.

5 = No major errors/omissions of any of the information and/or processes (simple or complex) that were explicitly taught.

4 = No major errors/omissions of simpler details/processes; partial demonstration of more complex ideas/processes.

3 = Partial demonstration of simpler details/processes; major errors/omissions regarding more complex ideas/processes.

2 = Limited demonstration of the simpler details/processes; either major errors/omissions or needs help on the more complex ideas/processes.

1 = With help, partial understanding of some of the simpler ideas and processes demonstrated.

0 = Even with help, no understanding or skill demonstrated.

Skill Scores: At the end of each grading period, students will receive a skill score for each concept covered during the term (note: each concept will be assessed several times during a term). The skill score will be the median of the three most recent scores on that concept, including retakes.

Grading Scale:

Your final grade is calculated like this:

A: *No skill scores lower than 6*

B: *No skill scores lower than 5.*

C: *No skill scores lower than 4.*

D: *No skill scores lower than 3.*

F: *At least one skill score of 2 or lower.*

Advanced Algebra Learning Targets (Proficiencies) 2013-2014

AA 0 Presumed Knowledge	AA0a.Linear Relationships- including, modeling linear data using multiple representations, interpreting slope and y-intercepts, writing linear equations from 2 points or 1 point and slope. AA0b.Algebraic Manipulation- including, solving basic linear equations, performing order of operations, simplifying/expanding expressions, and performing operations with fraction, decimal, and radical numbers.
AA 1 Algebraic Manipulation	AA1a.Simplify/expand expressions into equivalent algebraic expressions, including integer exponents* and fractional exponents*. AA1b.Solve linear, quadratic, literal, absolute value*, radical* and rational* equations. AA1c.Factor expressions.
AA 2 Functions and Relations	AA2a.Interpret and use function notation. AA2b.Determine whether or not a relation is a function. AA2c.Describe domain and range of functions using different notations. AA2d.Investigate functions given tables, graphs, equations and/or situations. AA2e.Model situations with functions, interpret solutions within a context, and use models to make predictions.*
AA 3 Sequences	AA3a.Describe growth patterns in sequences, identify whether they are arithmetic, geometric or neither and generate additional terms. AA3b.Find equations for arithmetic and geometric sequences and determine whether or not an element is a term of a sequence.
AA 4 Exponents and Exponential Functions	AA4a.Apply properties of integer exponents to simplify expressions and solve equations. AA4b.Apply properties of fractional and negative exponents to simplify expressions and solve equations. AA4c.Model exponential data using multiple representations and interpret exponential growth and decay.
AA 5 Transformations of Parent Graphs	AA5a.Recognize, describe, graph, and write equations for basic transformations of parent graphs, including dilations, reflections, and horizontal and vertical translations. (Linear, Quadratics, Cubics, Exponentials, Hyperbolic, Absolute Value, Radical, Circles, "Sideways" Parabolas)
AA 6 Quadratic Functions	AA6a.Recognize and use standard, graphing (vertex), and intercept form of quadratic equations. AA6b.Model quadratic data using multiple representations and interpret different situations.
AA 7 Systems of Equations and Inequalities	AA7a.Solve systems of 2 or 3 equations algebraically and graphically and interpret their solutions. AA7b.Write and solve single inequalities and systems of inequalities and interpret their solutions.* AA7c.Solve word problems involving situations that require systems of equations and/or inequalities* (Linear Programming).
AA 9 Inverses	AA9a.Find the inverse of a function and represent and describe the relationship using tables, graphs, equations, and domain and range.
AA 10 Logarithms	AA10a.Use the definition of logarithms to evaluate logarithms and convert between logarithmic and exponential forms. AA10b.Apply properties of logarithms to solve logarithmic and exponential equations or to simplify expressions.
AA 12 Polynomials and Complex Numbers	AA12a.Sketch a graph of a polynomial equation and write polynomial equations given graphs of polynomials or roots. AA12b.Divide polynomials and find the factors and roots of a polynomial. AA12c.Perform basic operations with complex numbers.
AA 14 Matrices	AA14a.Perform basic operations with matrices with and without a calculator. AA14b.Solve systems of equations using matrices.
AA15 Probability	AA15a. Solve basic probability problems involving tree diagrams, area model and basic properties AA15b. Calculate conditional probabilities and expected value.