

Algebra I

2010-2011

Jessica Quinn

jquinn@immaculateheart.org

Welcome to the 2010-2011 school year! I am excited and looking forward to working with each one of you this year. I expect everyone to be successful and I will be glad to assist you in any way possible. Algebra I is the beginning of your journey to the world of higher mathematics, where the rules of arithmetic are expanded to variables and properties of mathematics are explored. Pairs of numbers form graphic representations that bring us a powerful visualization of relations. You will develop a more sophisticated way of dealing with word problems by applying algebra. In this course you will also learn how to use the graphing calculator, a tool that will be used in all of your math classes from this point forward.

Materials:

Glencoe Algebra 1 (California Edition) www.algebra1.com

Three-ring binder to organize notes, handouts, homework and quizzes.

TI-83 Plus/TI-84 Plus graphing calculator.

Paper, graph paper, ruler with inches and centimeters, pencil (mechanical is preferred), eraser.

Sequence:

Semester 1

The Language of Algebra
Real Numbers
Linear Equations
Relations and Functions
Analyzing Linear Function
Probability and Odds

Semester 2

Linear Inequalities
Systems of Equations & Inequalities
Polynomials
Factoring & Quadratic Equations
Radical Expressions & Equations
Principles of Counting

Grading Policy:

70% of each semester grade will be based on a percentage of total points of tests (usually 100 points each), quizzes (30- 50 points each), homework assignments (2 points each), and class participation.

30% of each semester grade will be based on a comprehensive final exam.

Algebra 1 Benchmarks

- Students identify and use the arithmetic properties of subsets of integers and rational, irrational, and real numbers, including the closure properties for the four basic arithmetic operations.
- Students use properties of numbers to demonstrate whether assertions are true or false.
- Students understand and use such operations as taking the opposite, finding the reciprocal, raising to a power and taking a root. They understand and use the rules of exponents.
- Students solve equations and inequalities involving absolute value.
- Students simplify expressions before solving linear equations and inequalities in one variable.
- Students solve multi-step problems, including word problems, involving linear equations and inequalities in one variable and provide justification for each step.
- Students graph a linear equation and compute x- and y-intercepts. They are able to sketch the region defined by linear inequality.
- Students verify that a point lies on a line, given the equation of the line. Students can derive linear equations using the point-slope formula.
- Students understand the concepts of parallel and perpendicular lines and how those slopes are related. Students are able to write the equation of a line perpendicular to a given line that passes through a given point.
- Students solve a system of two linear equations in two variables algebraically and are able to interpret the answer graphically. Students are able to solve a system of two linear inequalities in two variables and to sketch the solution set.
- Students add, subtract, multiply and divide monomials and polynomials. Students solve multi-step problems using these techniques.
- Students apply basic factoring techniques to second- and simple third-degree polynomials. These techniques include finding a common factor for all terms of a polynomial, recognizing the difference of two squares and recognizing perfect square trinomials.
- Students solve quadratic equations by factoring.
- Students apply algebraic techniques to solve rate and mixture problems.
- Students understand the concepts of function and relation, determine whether a given relation defines a function, and give pertinent information about given relations and functions.
- Students determine the domain of independent variables and the range of dependent variables defined by a graph, a set of ordered pairs or a symbolic expression.
- Students determine whether a relation defined by a graph, a set of ordered pairs or a symbolic expression is a function and justify the conclusion.
- Students use the properties of the number system to judge the validity of results, to justify each step in a procedure, and to prove or disprove results.
- Students judge the validity of an argument according to whether the properties of real numbers and the order of operations have been applied correctly at each step.
- Given a specific algebraic statement involving linear, quadratic, or absolute value expressions or equations or inequalities, student determine whether the statement is true *sometimes*, *always* or *never*.
- Students understand and use the Fundamental Counting Principle and how it is applied to count permutations and combinations.
- Students understand and compute basic experimental and theoretical probabilities.

Class Information and Expectations

Attendance: Every day is important! Your success in Algebra I is directly related to how often you are present. In the event that you are absent, it is your responsibility to get the work and notes that you missed. If you are on campus during any portion of the school day, your homework for that day will be due and any scheduled quizzes or tests must be taken.

Tardiness: It is your responsibility to get to class on time with all of your class supplies. You are tardy if you are not in your seat with your homework on the desk when class begins

Office Hours: If you need to talk with me *for any reason* you should drop in at the beginning of break or lunch, or after school. If you are having difficulties with a topic, you should see me IMMEDIATELY. **Do not wait for the morning of a test!** I am available at break and lunch each day. I am also available for one hour after school.

Homework: Homework is assigned on a daily basis. Homework is due **AT THE BEGINNING OF CLASS** on the day after the assignment is given. Homework assignments will also be listed on the class web page. Late homework assignments will be accepted up to one week after the assignment was originally due. You may turn in two late homework assignments each quarter with no penalty. After these two late assignments, late work will be awarded half credit.

All regular homework assignments must include the following elements:

- Your name
- Assignment Name (including the page number and problems)
- Each assigned problem must include:
 - a. the original problem and any picture or graph that is associated with it (you may paraphrase long word problems)
 - b. sufficient work written in a logical, neat and organized way
 - c. your proposed solution

Check the odd-numbered problems in the back of the book before class. Use a red pen to show that the work has been corrected. **Try Hotmath.com for extra help on homework problems. The password is... xe63070de .** Ask questions about your homework the following day. Corrections are made during the first ten minutes of class and it is important to pay attention to this part of the class. If an assignment is missing a significant number of problems from the assignment, then the assignment will be regarded as incomplete and you will earn no credit for the assignment. **Each problem on the assignment should be attempted.**

The website associated with the text, www.algebra1.com, has resources such as extra examples, self-check quizzes and a parent and student study guide.

Technology:

- Graphing calculators will be used extensively for in-class work. Calculators may be used on all homework assignments unless otherwise specified.
- Cell phones and other technology may never be used in class and I highly recommend turning off cell phones and other electronic devices while completing homework. **Unauthorized use in class will result in a detention.**

Participation: Students are expected to be participants in the learning process. Your contribution to the environment - positive or negative - will be considered when the semester grade is calculated. Participation includes, but is not limited to, making relevant observations, asking questions, remaining on task, having your notebook up-to-date, being civil and helpful.

Make-Ups: Generally, students with extended absence for illness have as many days to make up an exam. Quizzes that have been graded and returned cannot be made-up, and a student who misses a quiz will be given a blank copy for study purposes without penalty. Three missed evaluations is excessive however, and will result in a penalty.

- A student who is absent the day before a test, but present when the test was scheduled, should be prepared to take the test with the class.
- A student who is absent on the test day only should be prepared to take the test on the day she returns.
- Any extenuating circumstances must be discussed with me PRIOR to the beginning of class. Please feel free to use e-mail to contact me.

Learning: Everyone is capable of learning the mathematics taught in this course, though perhaps to a different depth. Learning takes time, patience, practice and willingness to learn from mistakes. For this class, effort and perseverance will be more important than talent.

Grading: You are encouraged to regularly check your grade in this class online. Anytime the cumulative percent falls below 70 you should consider it cause for serious concern. Most chapters will consist of 2 quizzes (30 - 50 points) and 1 exam (100 points). Standard percentages are used to convert to letter grade:

A : 93– 100%	B ⁺ : 87 – 89%	A ⁺ : 77 – 79%	D ⁺ : 67 – 69%	F: < 59%
A-: 90 – 92%	B : 83 – 86%	C : 73– 76%	D : 63– 66%	
	B-: 80 – 82%	C-: 70 – 72%	D-: 60 – 62%	

PARENT/STUDENT ACKNOWLEDGEMENT:

We, _____ (print **student** name) and _____ (print **parent/guardian** name) have read and acknowledge the rules and guidelines set forth in the Algebra I syllabus.

Student signature: _____ Date: _____

Parent signature: _____ Date: _____

Please read, sign and return by **Wednesday, August 25th**.