

ALGEBRA 1: SESSION 2

Course Description

This course is designed to give students the skills and strategies to solve fundamental mathematical problems. This course is the second half of Algebra 1 and covers a range of algebraic topics such as factoring, working with rational and radical expressions, solving rational and radical equations, solving quadratic equations, and working with functions. More importantly, this course is intended to provide you with a solid foundation for the rest of your math courses. This course will culminate with a Final Exam. This course is for students that have taken and successfully passed the first half of Algebra 1.

Prerequisite

Algebra 1: Session 1

Credit Requirement Area

Math

Learning Objectives

- Students will remove a common factor.
- Students will factor by grouping (including rearranging terms).
- Students will factor special products.
- Students will factor trinomials.
- Students will solve quadratic equations by factoring.
- Students will evaluate rational expressions.
- Students will reduce rational expressions.
- Students will multiply rational expressions (with and without factoring).
- Students will divide rational expressions (with and without factoring).
- Students will convert units using dimensional analysis (with one and two units).
- Students will simplify expressions with rational exponents.
- Students will simplify radical expressions.
- Students will rationalize denominators (monomial and binomial) of radical expressions.
- Students will solve equations by taking roots.
- Students will solve equations with even and odd roots.
- Students will solve quadratics by completing the square and using the quadratic formula.
- Students will solve rectangle problems.
- Students will graph quadratic functions by identifying key points of the graph.
- Students will find the domain of a function.
- Students will evaluate functions at number and variable values.
- Students will evaluate sum, product, difference, quotient of functions at number and variable values.
- Students will find the composition to two functions.
- Students will find compound and continuous interest.

Suggested Weekly Schedule

Week	Graded Activities	Suggested Due Date	% Points
1	Assignment 1: GCF Video Lesson	Monday of Week 1	9.1%
	Assignment 2: GCF Practice	Monday of Week 1	9.1%

Week	Graded Activities	Suggested Due Date	% Points
	Assignment 3: Grouping Video Lesson	Tuesday of Week 1	9.1%
	Assignment 4: Grouping Practice	Tuesday of Week 1	9.1%
	Assignment 5: Trinomials $a=1$ Video Lesson	Wednesday of Week 1	9.1%
	Assignment 6: Trinomials $a \neq 1$ Video Lesson	Wednesday of Week 1	9.1%
	Assignment 7: Factoring Trinomials Practice	Wednesday of Week 1	9.1%
	Assignment 8: Special Products Video Lesson	Thursday of Week 1	9.1%
	Assignment 9: Special Products Practice	Thursday of Week 1	9.1%
	Assignment 10: Solve by Factoring Video Lesson	Friday of Week 1	9.1%
	Assignment 11: Solve by Factoring Practice	Friday of Week 1	9%
Week 1 Total Percentage Towards Final Grade			16.6%
2	Assignment 1: Reduce Rational Expressions Video Lesson	Monday of Week 2	16.6%
	Assignment 2: Reduce Rational Expressions Practice	Tuesday of Week 2	16.6%
	Assignment 3: Multiply and Divide Video Lesson	Wednesday of Week 2	16.7%
	Assignment 4: Multiply and Divide Practice	Wednesday of Week 2	16.7%
	Assignment 5: Dimensional Analysis Video Lesson	Thursday of Week 2	16.7%
	Assignment 6: Dimensional Analysis Practice	Friday of Week 2	16.7%
Week 2 Total Percentage Towards Final Grade			16.6%
3	Assignment 1: Simplifying Radicals Video Lesson	Monday of Week 3	12.5%
	Assignment 2: Simplifying Radicals Practice	Monday of Week 3	12.5%
	Assignment 3: Rationalize Denominators Video Lesson	Tuesday of Week 3	12.5%
	Assignment 4: Rationalize Denominators Practice	Tuesday of Week 3	12.5%
	Assignment 5: Solving with Radicals Video Lesson	Wednesday of Week 3	12.5%
	Assignment 6: Solving with Radicals Practice	Wednesday of Week 3	12.5%
	Assignment 7: Solving with Exponents Video Lesson	Thursday of Week 3	12.5%
	Assignment 8: Solving with Exponents Practice	Friday of Week 3	12.5%
Week 3 Total Percentage Towards Final Grade			16.6%
4	Assignment 1: Completing the Square Video Lesson	Monday of Week 4	12.5%
	Assignment 2: Completing the Square Practice	Monday of Week 4	12.5%
	Assignment 3: Quadratic Formula Video Lesson	Tuesday of Week 4	12.5%

Week	Graded Activities	Suggested Due Date	% Points
	Assignment 4: Quadratic Formula Practice	Tuesday of Week 4	12.5%
	Assignment 5: Rectangle Application Video Lesson	Wednesday of Week 4	12.5%
	Assignment 6: Rectangle Application Practice	Wednesday of Week 4	12.5%
	Assignment 7: Graph Quadratics Video Lesson	Thursday of Week 4	12.5%
	Assignment 8: Graph Quadratics Practice	Friday of Week 4	12.5%
Week 4 Total Percentage Towards Final Grade			16.6%
5	Assignment 1: Function Notation Video Lesson	Monday of Week 5	16.6%
	Assignment 2: Function Notation Practice	Tuesday of Week 5	16.6%
	Assignment 3: Operations on Functions Video Lesson	Wednesday of Week 5	16.7%
	Assignment 4: Operations on Functions Practice	Wednesday of Week 5	16.7%
	Assignment 5: Compound Interest Video Lesson	Thursday of Week 5	16.7%
	Assignment 6: Compound Interest Practice	Friday of Week 5	16.7%
Week 5 Total Percentage Towards Final Grade			16.6%
6	Final Exam: Algebra Session 2	Friday of Week 6	100%
Week 6 Total Percentage Towards Final Grade			17%
WEIGHTED TOTAL			100%