**Algebra 2A ---Trimester Exam**

**Information**

Your final exam will be on content from Chapters 1, Appendix A/B, Chapter 2, Chapter 3 and Chapter 4 as well as on items done in class that are related.

Nov 26 Mon - Review #1 /Prepare for Final Exam

Nov 27 Tues - Review #2 /Prepare for Final Exam

-Any additional LCQ's will be dropped by the grading program

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Nov 28 Wed - **Final Exam Part 1** ... (normal type questions, where you have to show work)

Nov 29 Thur - **Final Exam - Part 2** - this is the official last day of class.

This part is *multiple choice.*

I also hope to let you see your results from Part 1

**Allowed**

1. Your reference sheet
2. 8.5" by 11", both sides, provided it is in your writing and it is stapled to the other sheets.

You can have explanations about formulas or procedures.

You may **not** have full worked examples but you can write explanations or steps written out in words.

If you want to have worked examples, talk to me ahead of time about doing this and capping your score at 81%.

Staple both of these two sheets together. Write your name on top. You will turn this “Note Packet” in with Part 1 of the test. I will return it to you at the start of Part 2.

You must turn in the note sheet in with the first part of the test.

**Potential Test Items**

**Chapter 1**

1. Find the domain and range of functions given either the equation or the graph.
2. Given the equation of a function, determine both the x- and y-intercepts using algebraic techniques *by setting x=0 or y=0*
3. Write the equation of a straight line, in slope intercept form
* given two points or
* given a table
* given a graph
1. Solve all kinds of linear equations.

*For those equations with fractions and decimals, you should know how to "clear" or "eliminate" the fractions before preceeding.*

1. Show an understanding of *function notation*
* to evaluate functions *given an input, for example f(4) = ??*
* and to find inputs *given an output. for example..... what is x if f(x) = 10*
1. Factor quadratic expressions into factors.
* Factor out all common factors
* Differences of squares
* Create two binomial factors from a quadratic (can use the box method)
1. Solve quadratic equations:
	* + by factoring and then using ZERO Product Property
		+ and by using the quadratic formula
2. Solve a system of equations. You can choose either of the following mehtods:

Elimination, Substitution, or Equal values method

1. Simplify with exponents (following exponent rules)

**List of Quiz Items for Appendix A**

* Write explicit formulas, in first term format and zero term format for
	+ - *arithmetic sequenes*
		- *geometric sequences*
* Given a table or a graph, write an exponential function in the form $y=ab^{x}$
* Write exponential functions from percent growth or decay situations.

**Chapter 2**

1. Analyze a function by stating the domain, range, any asymptotes of parent functions and their transformations.
2. Write equations of transformations given either the description of the transformation or their graph. *(to include vertical stretches or shrinks, horizontal translations, vertical translations, vertical reflections).*
3. Convert an equation of a parabola to graphing form, showing work, by $Completing the Square$ or by using the $Averaging the x-intercepts$.
4. Perform mathematical modeling with situations involving parabolas. (including a completely labeled diagram and equation. using $y=a(x-h)^{2}+k$

**Chapter Three**

* Re-write equations to make them solvable. Then solve them, using good notation.
* Simplify rational expressions (by factoring, then making "ones")

Multiply and Divide Rational Expressions (only factors can cancel!, you don't need a common denominator)

Add and Subtract Rational Expressions (*you do need a common denominator*)

* Graph a rational function on your calculator, then state the domain/range/asymptote equations

**Chapter 4**

1. **Solve a variety of equations** --- using “Un-Doing” and “Rewriting skills. (good notation and steps expected)
* *Equations with radicals*
* *Equations with absolute value*
* *Equations with fraction*
* *Equations that include terms that are squared or cubed. ie...*$ (x-6)^{2}$ *or* $(x-6)^{3}$

Give evidence of extraneous solutions when they exist (this means to show a check in the original equation to see if it really is a solution.

1. Use a graphing calculator to solve high level equations (not solvable other ways). *(by creating a system of equations from each side of the equation, then graphing on your calculator. you should show rough sketch.*
2. Use a graphing calculator to solve ***systems of two equations*.**
3. *Write* a system of equations given a situation. Then solve it.
4. Solve one-variable **inequalities** (linear and non linear)
* by finding boundary and testing points
* by solving directly (if possible)
* by graphing on GDC (must show a labeled sketch)
1. Solve two-variable inequalities

*by first finding the boundary curve, then testing a point, then shading appropriately*