

# EMAT 3500

## Exploring Concepts (with Technology) in Secondary School Mathematics Spring 2009

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### Office Hours :

**Dr. Olive (room 105 F)**

Tuesdays, Wednesdays & Thursdays 1:30pm - 3:30pm  
.....or by appointment  
.....or drop in if I'm in my office.

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### Assignments

All assignments should be created electronically and emailed as an attachment to Dr. Olive or one of the graduate assistants. Please use the following file name format for each assignment: <first initial><last name><assignment #>.<file type>. For example, my reflection paper for assignment #1, created using Microsoft Word, would have the file name: jolive1.doc

Click on a number in the following table to go to that assignment.  
These will be updated periodically

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#### #1 . Prepare for next class discussion on January 13 (electronic portfolio)

Visit the NCTM web site at [www.nctm.org](http://www.nctm.org) and find the electronic version of the [Principles and Standards for School Mathematics](#). Read through all of the Principles and study the overview of the curriculum standards for both middle grades and high school. Explore the electronic examples for both middle and high school algebra. Choose one example to respond to the "take time to reflect" questions and write up your responses to share with the rest of your class (to be included in your portfolio).

**Due: 01/13**

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#### #2. Review Unit 1 of the GPS Frameworks for Math Len Function Families: (portfolio)

## 2. Review Unit 1 of the GPS Frameworks for Math I for Function Families. (portions)

Download Unit 1 for Math I from the GPS Frameworks web site: <http://www.georgiastandards.org/mathframework.aspx#twelve>  
 Read through all of the tasks in Unit 1. Work the problems in Tasks 1 and 2 (*Exploring functions with Fiona and Fences and Functions.*) Write up your solutions and save the file in your electronic portfolio. We shall use the following GSP sketch (created by *Matt Winking*, the *Presidential Teacher of the Year* at the Phoenix School in Gwinnett County) in class to explore [Fences and Functions](#). Make a list of the main points of this unit to share with the class. Save this list in your electronic portfolio.

**Due: 01/15**

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### ◁#3. Investigate the Georgia Performance Standards (10 points)

Go to the web site for the new [Georgia Performance Standards](#). Find the mathematics standards that relate to the goals of this course. You can also download the [Vertical Alignment Chart for HS Math from this web page by clicking here](#).

Match the topics in the outline of the course with an appropriate GPS (you can copy and paste from the [Outline for the course](#)). Save these matched items in your electronic portfolio and send a copy to Dr. Olive and the TA as an email attachment. Remember to name your file: "your\_name\_2.doc"

Rubric

	(10 pts)	(8 pts)	(6 pts)	(4 pts)	(2 pts)	0
<b>Criteria</b>	Matches all outline topics to an appropriate GPS	Matches 80% of outline to an appropriate GPS	Matches 60% of outline to an appropriate GPS	Matches 40% of outline to an appropriate GPS	Matches 20% of outline to an appropriate GPS	Does not attempt the assignment.

**Due: 01/20 (Barack Obama's Inauguration Day!)**

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### #4. Reflecting on Your Experiences with Mathematics Teachers: (15 points)

You have been a mathematics student for most of your life! You have experienced many different teachers who taught you mathematics. These experiences have very likely influenced how you think about "mathematics teaching," and these can even affect the ways that you will behave as a beginning mathematics teacher. It can be important to reflect upon these past experiences, to take stock of some possible influences upon you and how you want to teach.

**A.** Make a short list (3-5; use initials or a pseudonym or code) of your "favorite" teachers of mathematics. For each, briefly tell why they are a "favorite." Think about them as "persons," and list any attributes that might have led you see them as a "favorite." Think about them as "teachers," and list attributes that mattered to you. Think about them in the act of teaching mathematics, and list things about their teaching that you admired. You might consider their attitudes towards students and towards mathematics, their teaching styles, and their content knowledge.

**B.** Make a short list (3-5) of your "least favorite" teachers of mathematics. For each, briefly tell why you see them this way. Think about them as "persons," and list any attributes that might have led you to see them this way. Think about them as "teachers," and list attributes that led you to see them this way. Think about them in the act of teaching mathematics, and list things about their teaching that you disliked. You might consider their attitudes towards students and towards mathematics, their teaching styles, and their content knowledge.

**C.** Think about the kind of mathematics teacher you want to be. List the positive attributes that would describe you, as a "person" and as a "teacher." Think about yourself in the act of teaching your mathematics students. List a few of the most important characteristics that might describe your teaching. You might consider your attitude towards students and towards mathematics, your preferred teaching style, and your content knowledge.

Email your Word document to Dr. Olive and the TA.

**Due: 01/22**

Rubric

	Exemplary (5 pts)	Proficient (4 pts)	Partially Proficient (3 pts)	Barely proficient (2 pts)	Incomplete (1 pt)	No attempt
<b>Section</b>	Lists more than 3 favorite	Lists 2 or 3 favorite	Lists 1 favorite teacher and	Lists an attribute	Lists names of	

<b>A</b> <b>(33%)</b>	teachers and their attributes as persons and as teachers and acts of teaching	teachers and their attributes as persons and as teachers and acts of teaching	his/her attributes as a person and as a teacher and acts of teaching	but no characteristics of teaching	teachers only	
<b>Section B</b> <b>(33%)</b>	Lists more than 3 least favorite teachers and their attributes as persons and as teachers and acts of teaching	Lists 2 or 3 least favorite teachers and their attributes as persons and as teachers and acts of teaching	Lists 1 least favorite teacher and his/her attributes as a person and as a teacher and acts of teaching	Lists an attribute but no characteristics of teaching	Lists names of teachers only	
<b>Section C</b> <b>(33%)</b>	Lists more than 3 attributes of oneself as a person and as a teacher and characteristics of your teaching	Lists 2 or 3 attributes of oneself as a person and as a teacher and characteristics of your teaching	Lists one attribute of oneself as a person and as a teacher and characteristic of your teaching	Lists an attribute but no characteristics of teaching	No comments on self	

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## #5. Relational and Instrumental Understanding (portfolio)

Read the article by Richard Skemp on [Instrumental and Relational Understanding](#). Identify 3 main points that Skemp makes about the nature of mathematical understanding. Then reflect on your responses to assignment #4. Briefly describe how you were taught and how you learned mathematics (instrumentally and/or relationally). (2-3 pages). Email your reflection to Dr. Olive and the TA and save it in your electronic portfolio.

**Due: 01/27**

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## #6. Composition of Functions Investigation (10pts)

(Assignment 7.3 from [Chapter 7 of Transforming Mathematics with the Geometer's Sketchpad](#))

Using the [GSP Dynagraphs sketch](#), investigate the 8 mystery functions. Create three functions of your own, each of which belongs to a different family (e.g, step, quadratic, and trigonometric) and investigate the composition of your three functions. (A sketch showing [compositions of several functions can be found here](#).) Write-up your investigations, highlighting any interesting or surprising characteristics you discovered for your particular composition (1-2 pages). Submit your GSP sketch along with your write-up via **email attachment or file transfer** to Dr. Olive. The following description of a "write-up" is adapted from Dr. Jim Wilson.

The "write-ups" for EMAT 3500 represent your synthesis and presentation of a mathematics investigation you have done -- usually under the direction of one of the assignments. The major point is that it convincingly communicates what you have found to be important from the investigation.

The hypothetical audience might be your students, your classmates, or classroom mathematics teachers. You should present your topic in a reasonable amount of space, emphasizing the essential and eliminating the irrelevant (though sometimes interesting) side issues.

**Due: 02/03**

Rubric

Criteria	Exemplary (5 pts for each part)	Proficient (4 pts for each)	Partially Proficient (3 pts for each)	Incomplete (2 pts for each)	Not Working (1 pt)	Missing Work (0 pts)
<b>GSP Sketch (50%)</b>	Working GSP sketch with 3 different dynagraphs and at least 3 different compositions of 2 or more functions organized on different pages	Working GSP sketch with 3 different functions and 2 different compositions of 2 or more functions.	Working GSP sketch but functions are not from different families or are the ones provided by the downloaded sketch. Only one or two working compositions.	GSP sketch with 3 functions but no compositions.	GSP sketch does not function properly.	No GSP sketch.
<b>Write-Up (50%)</b>	Functions and their compositions are fully described and surprising results are explained in terms of the properties of the composed functions, including domain and range.	Functions and all compositions are fully described with reference to domain and range.	Functions are listed and one or two compositions briefly described	Write up describes the functions but not the compositions.	Write-up does not describe the situation.	No write-up.

### #7. Reflection on Dynagraphs (portfolio)

Dynagraphs were very probably a new way of representing and playing with functions for you. In what ways did they enhance your own concepts and ideas about functions? Would you use these dynamic representations with your students? Why or why not? (1-2 pages) Email your reflections to Dr. Olive and your TA.

**Due: 02/05**

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### #8. Reading and Reflection (portfolio)

Chazan, D. (1999). On teachers' mathematical knowledge and student exploration: a personal story about teaching a technologically supported approach to school algebra. [\*International Journal for Mathematics Learning\*, 4: 121-149.](#)

Reflect on how the author's approach to teaching algebra was influenced by the use of technology. Think about the role of function in the two different approaches. How might the use of GSP enhance the functions approach? Be prepared to discuss your ideas in class.

There is at least one mathematical error in this paper. See if you can find it.

**Due: 02/10**

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### #9. Dynamic Transformations of the Quadratic Function (15pts)

Complete the three [Challenges](#) on page 94 (Assignment 7.5) of *Transforming Mathematics with the Geometer's Sketchpad* and turn in a completed GSP sketch via **email or file transfer**. An extra 5 points will be possible for successfully completing the [Extra Challenge](#).

**Due: 02/17**

Rubric

Criteria	All 3 complete (15 pts)	2 of 3 complete (10 pts)	1 of 3 complete (5 pts)	Attempted (3 pts)	No Attempt (0 pts)
<b>GSP Sketch (100%)</b>	Completed all three challenges with correctly working GSP sketch	Completed 2 of the 3 challenges with correctly working GSP sketch	Completed 1 of the 3 challenges with correctly working GSP sketch	Attempted the challenges but was not successful in generating a correct function for any of the challenges.	Did not attempt any of the challenges
<b>Extra Credit</b>			Successfully completed the extra credit challenge	Attempted the Extra Credit but not successful	Did not attempt the Extra Credit Challenge

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### #10. Review of the NCTM Algebra Standards (portfolio)

Review the Algebra Standards for grades 6-12 in the NCTM *Principles and Standards*. Write a 1-2 page report on the approach to *Functions* taken in the *Standards* document. Compare this approach to Unit 1 (*Function Families*) of the Math 1 GPS Frameworks and the approach we have taken in this course. Email your report to Dr. Olive and the TA.

**Due: 02/19**

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## #11. Sorting Functions (10pts)

Sort the 28 function cards into a 7 x 4 array based on the four different kinds of representations (graph, data table, algebraic expression and verbal description) and seven distinct categories of functions that you must determine. Each function CATEGORY will have an example from each of the four different representations (but each representation will be of a different function in that category). Label each function category. Turn in a 7x4 table with rows and columns labelled appropriately and the NUMBERS of the appropriate function cards in each of the 28 cells (one card per cell). Write a one-page explanation for how you determined your seven function categories and the placement of the cards. Email your Table and explanation to Dr. Olive and the TA's.

This activity is adapted from Cooney, T. (1996). **Developing a topic across the curriculum: Functions**. In Cooney, T. J., et. al. (Eds.), Mathematics, Pedagogy, and Secondary Teacher Education. (pp. 27-43). Portsmouth, VA: Heinemann.

**Due: 02/24**

Rubric

Criteria	Complete (10 pts)	10% errors (9 pts)	20% errors (8 pts)	30% errors (7 pts)	40% errors (6 pts)	50% errors (5 pts)	60% errors (4 pts)	80% errors (2 pts)	90% errors (1 pt)	No attempt (0 pts)
Table entries (80%)										
Explanations (20%)										

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## Mid-Term Exam on Functions : 03/03 (60pts)

[Download GSP sketch for the Part 1 Extra Credit question.](#)

## #12. Probability Investigation (10pts)

Complete [Task 5 of Unit 4 of the Math 1 Frameworks](#). Use GSP to design the spinner for question 1 that best fits the experimental data and answer all the other questions. Email your GSP sketch and the answers to the questions either in a Word document or in the GSP sketch to Dr. Olive and the TA.

**Due: 03/17**

**Rubric:**

**Question 1: 3 points for a working GSP sketch with correct sectors and a spinner arrow that will move to a random position using an Action Button**

2 points for a working GSP sketch with correct sectors but the spinner arrow has to be moved manually (no random action), or incorrect sectors but a randomly moving spinner arrow.

1 point for a GSP spinner with incorrect sectors and the spinner arrow has to be moved manually (no random action)

0 points for no GSP sketch.

Questions 2-4: 1 point for each correct answer.

Question 5: 2 points for a correct answer.

Question 6: 2 points for the first part answered correctly (In the long run, would the player expect to win or lose money?).

1 Bonus point for figuring out the second part (How much they would expect to win or lose after 100 times playing the game.)

**Total Points: 10 + 1 bonus**

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## #13. Laboratory Preparation (Portfolio)

Click [here for a list of the labs](#).

For Tuesday 03/24 - Discuss with your group how you intend to conduct your lab activity. Make a list of needed equipment and make plans to obtain the equipment (some equipment is available from our Departmental closets). Come to class with equipment and instructions for your group's lab activity. Set up your lab activity before the beginning of class.

[Return to Assignments](#)**#14. Lab Reports from the 5 Labs (10 points)**

Once all results have been collected for each lab and shared with each member of your group, each individual will write a brief (paragraph) conclusion he/she made from the *shared class results* for *each* lab. Your group's results and *your* conclusions for each lab should be emailed to Dr. Olive and the TA's.

**Due: 03/31**

Rubric

	5 labs (5 pts for each part below)	4 labs (4 pts for each part)	3 labs (3 pts for each part)	2 labs (2 pts for each part)	1 lab (1 pt for each part)	No results (0 pts)
<b>Results (50%)</b>	Submits group's results from all 5 labs	Submits results from only 4 labs	Submits results from only 3 labs	Submits results from only 2 labs	Submits results from only 1 lab	No results submitted
<b>Conclusions (50%)</b>	Brief conclusions written up for all 5 labs based on <i>the shared class</i> data for each lab.	Brief conclusions written up for 4 labs	Brief conclusions written up for 3 labs	Brief conclusions written up for 2 labs	Brief conclusions written up for 1 lab	No conclusions

[Return to Assignments](#)**#15. Reflection on Use of the TI-Nspire Handheld and CBL/CBR technologies (Portfolio)**

Write a 1 to 2 page reflection on your experiences with these new technologies. What did you find difficult to use and why? In what ways did they help or hinder your learning? Would you want to use these technologies with your own students when you start teaching? Why or why not?

Email your reflection as a Word document to Dr. Olive and the TA.

**Due: 04/02**[Return to Assignments](#)**#16. Approximating Best Fit Lines ~ (10pts)**

Using *all* the data from the *Pennies Experimental Lab*, create a *moveable* line of best fit using Fathom (do not use the built-in Least-Squares line). Using the equation of your best-fit line, create a calculated attribute called "Predicted" that will be the predicted value of the dependent variable for each value of the independent variable. Calculate the signed deviation (Collected - Predicted), absolute deviation  $|Collected - Predicted|$  and squared deviation  $(Collected - Predicted)^2$  of each collected dependent data point from the predicted value given by the line of best fit. Using a Fathom *Summary Table*, show the sums of each of these different deviations.

The more interesting part of this assignment lies in thinking about what these summed deviations tell us about the "best fit line." How can we know if we have chosen the **best** fit line? Which is a better predictor, the sum of the signed deviations, the sum of the absolute deviations, or the sum of the squared deviations? The following is a sketch that I created; it could be helpful in facilitating your thinking. Click [here](#) for the gsp sketch.

Write a brief explanation (with examples) for why you would choose to use one of the following methods for calculating the best line of fit for your data: signed deviations, absolute deviations, squared deviations. Upload your paper and any example files to the EMAT3500 folder or attach to an email to Dr. Olive and the TA's.

**Due: 04/07**

Rubric

	Exemplary (10 pts total)	Proficient (8 pts)	Partially Proficient (6 pts)	Incomplete (4 pt)	No Attempt
<b>Data (75%)</b>	Has complete data set with AUTOMATICALLY CALCULATED values for Predicted data based on line of best fit, signed deviations, absolute deviations, and squared deviations	Has complete data set with values for Predicted data based on line of best fit, signed deviations, absolute deviations, and squared deviations entered	Has complete data set with values for Predicted data based on line of best fit, but signed deviations, absolute deviations, and squared deviations are not shown, however, their sums are	Has only the collected data. Has not calculated the predicted data nor the different deviations	Has not turned in any data.

	squared deviations	deviations entered manually.	shown, however, their sums are given	deviations.	
<b>Explanation (25%)</b>	Has a rational explanation for choosing an appropriate sum to find the best-fit line.	Has chosen an appropriate sum but does not provide a rationale.	Chooses an inappropriate sum based on rationale that the sum can be very small or even zero.	Chooses an inappropriate sum with no explanation	Does not choose a best error method and does not give any explanation

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## #17. Modeling Probability (10pts)

Complete *Task 1: Measuring Areas of Irregular Regions using Geometric Probability: Hands-on Dice Activity* that was begun in class. ([You can download Task 1 by clicking here](#))

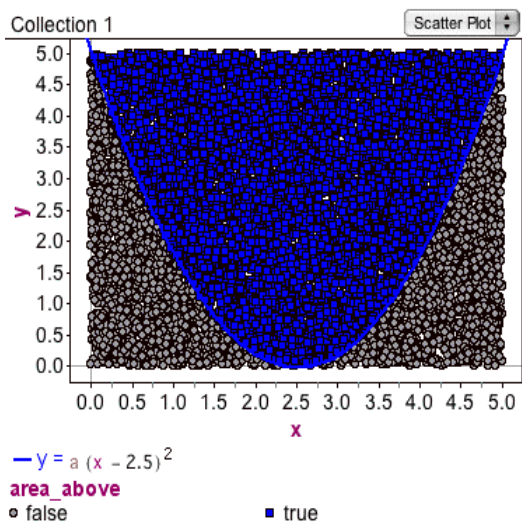
Your grade for this assignment will be based on your completion of Part B of the extension activities:

*Extensions into Geometry, Algebra and Calculus using the Fathom™, Dynamic Data™ software tool.*

This is based on activity 7.4 from *Exploring Algebra 1 with Fathom* (Key Curriculum Press, 2006).

**Part B: Investigating the area enclosed by a parabolic curve inscribed in a square.**

1. Create a new scatterplot of y against x, where both attributes x and y have the formula random (5)
2. Add the following function to this scatterplot:  $y=(x-2.5)^2$
3. Create a new attribute (area\_above) for the area above the parabola using your existing x and y attributes.
4. Drag your area\_above attribute into the middle of your new scatter plot. You should see the area above the parabola in blue.
5. Create a summary table showing the count() of the whole collection, the count(area\_above) and the ratio count(area\_above)/count().
6. Create a slider and label it "a". Set a to 1.00 to start and use a to edit the function for the parabola:  $y=a(x-2.5)^2$ .
7. Double click on the slider and set its lower limit to 0.5 and its upper limit to 1.5. Adjust the value of a using your slider until your function plot passes through the upper two corners of your square region – points (0,5) and (5,5).
8. Now edit your area\_above formula to also use a so that the area is the area above your new function plot (see following screen shot from Fathom).



What do you notice about the proportion of the area of the square that is above this new parabola?

**Successful completion of the above will earn you 8 out of the 10 points.**

**For the full 10 points:**

Use your knowledge of integral calculus to compute the area bounded by the parabola and the top edge of the square. Does this calculation verify your experimental results? Turn in your mathematical explanations (including details of any integration), together with your Fathom files via email attachment or upload to the EMAT 3500 folder on Dr. Olive's Mac.

**For two bonus points:**

Can you generalize this result for a parabola inscribed in any square (i.e. passing through the two upper corners of the square)?

square with its vertex at the midpoint of the bottom of the square)?

Can you generalize the result for any rectangle (i.e. passing through the two upper corners of the rectangle with its vertex at the midpoint of the bottom of the rectangle)? Use Fathom sliders for the dimensions of your rectangle and edit your formulas so that the above conditions are satisfied.

Due 04/14

Rubric

	Target (10 pts total)	Acceptable (8 pts)	Partially acceptable (6 pts)	Incomplete (4 pts)	No Attempt
<b>Fathom Activities (80%)</b>	Completed all of the activities with appropriate data sets, tables, graphs, appropriate functions or formulas for the different models and summary statistics	Completed all of the activities but may not have used summary statistics or formulas in the data tables when appropriate.	Completed some of the activities but did not find appropriate functions or formulas for the models	Attempted but did not complete any of the activities.	No attempt at the activities
<b>Calculus Verification (20%)</b>	Provides a clear explanation with correct integration of an appropriate function to verify the proportion of the area of the square above the parabolic curve.	Uses calculus to verify the proportion of the area of the square above the parabolic curve but does not provide a clear explanation.	Uses calculus but computes the integral incorrectly or uses an inappropriate function. The calculation does not verify the experimental results.	Attempts but does not complete the calculus verification.	No attempt at the calculus verification.
<b>Extra Challenge</b>	Completed the extra challenge and found a generalization! (2 points)	Completed the extra challenge but did not find a generalization! (1 point)			Did not attempt the extra challenge

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### #18. The Biggest Box Problem (10 pts)

Construct a working GSP sketch for the biggest box problem. Your sketch should include a square with variable squares cut from each corner to form the template of your box. You should link the varying size of these squares to a calculation for the volume and plot the size of cut out square (x) against volume (y) in your sketch. Derive an algebraic solution for the size of the cut-out square (as a fraction of the side-length of your square) that gives you the maximum volume. [Click here to download a sophisticated GSP sketch](#) that illustrates the problem (do not use this sketch for your assignment). Upload your GSP sketch with explanations to the EMAT 3500 folder or email it as an attachment to Dr. Olive and the TA's.

Due: 04/21

Rubric

	Exemplary (10 pts total)	Proficient (8 pts total)	Incomplete (5 pts total)	No attempt
<b>GSP Simulation (20%)</b>	Construction for the square and the cutout corners works correctly. Both size of square and size of cutout can be varied. The point for varying the cutout is on one half of one side of square. Size of cutout and side of square are measured.	Construction works but size of square is fixed or extra objects are used for the construction to work (e.g. an extra segment to control size of square and moveable point) or moveable point goes past the midpoint of a side. Measurements are correct.	Missing measurements or measurements are not dynamic. Some aspect of the construction does not work properly.	No attempt to construct the GSP simulation or just used instructor's sketch.
<b>GSP Plot (20%)</b>	Correctly plotted the two dynamic measurements and used plot to estimate the size of the cutout for maximum volume.	Correctly plotted the two dynamic measurements.	Made a plot but it was not with dynamic measurements or incorrect measurements	No plot created.
<b>Algebraic Solution for fraction of side of square (40%)</b>	Created a correct algebraic expression for the Volume based on the length of cutout and length of square. Used this expression to find the maximum using calculus and factoring of a polynomial. Determined the fraction of the side that gives the maximum volume.	Created a correct algebraic expression for the Volume based on the length of cutout and length of square. Used this expression to find the maximum using calculus. Used an algorithm rather than factoring to find a solution or did not express solution as a fraction of the side length.	Incorrect expression for the volume or errors in finding the maximum based on faulty calculus or arithmetic errors. Fraction of side is incorrect.	No attempt at an algebraic solution.
<b>Algebraic function for the plot (20%)</b>	Creates a function in GSP based on the length of the original square that coincides with the GSP plot of cutout against volume. The function still matches the plot when the size of the square is changed.	Creates a function in GSP based on the length of the original square that coincides with the GSP plot of cutout against volume, but the function does not match the plot when the size of the square is changed.	Function expression is not correct or does not match the plot.	No attempt to create a GSP function.

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## #19. The View-Tube with GSP (10 pts)

Construct a working GSP sketch that represents the variables in the View-Tube experiment: Length of tube, diameter of tube, distance of tube from the screen, height of viewable portion of the screen. Use height of viewable portion of the screen as your DEPENDANT variable and plot this against each of the other variables. Derive functions for each of these relations. Copy your construction onto three pages in your GSP document and plot one function on each page, using the data generated by your sketch. Check that your functions match your data plots. [Click here to download a starter GSP sketch](#) for the view tube problem with 3 pages already created. Upload your edited version of this GSP file with explanations to the EMAT 3500 folder or email it as an attachment to Dr. Olive and the TA's.

**Due: 04/28**

Rubric

	<b>Target (3 pts for each part +1)</b>	<b>Acceptable (2 pts for each part)</b>	<b>Incomplete (1 pt for each)</b>	<b>No attempt</b>
<b>Page 1 (33%)</b>	Plots independent variable against dependent variable correctly. Creates the correct function by editing the existing $f(x)$ to match the locus of the plotted point. Uses the other measurements in the sketch as the parameters in this function. Correctly labels this page in terms of the independent variable.	Creates the correct plotted point and function but may not use the existing $f(x)$ or does not label the page.	Correct plot but incorrect function.	Does not attempt to plot the independent variable against dependent variable. No attempt to create a matching function.  May turn in the starting sketch unchanged.
<b>Page 2 (33%)</b>	Plots independent variable against dependent variable correctly. Creates the correct function by editing the existing $f(x)$ to match the locus of the plotted point. Uses the other measurements in the sketch as the parameters in this function. Correctly labels this page in terms of the independent variable.	Creates the correct plotted point and function but may not use the existing $f(x)$ or does not label the page.	Correct plot but incorrect function.	Does not attempt to plot the independent variable against dependent variable. No attempt to create a matching function.  May turn in the starting sketch unchanged.
<b>Page 3 (33%)</b>	Plots independent variable against dependent variable correctly. Creates the correct function by editing the existing $f(x)$ to match the locus of the plotted point. Uses the other measurements in the sketch as the parameters in this function. Correctly labels this page in terms of the independent variable.	Creates the correct plotted point and function but may not use the existing $f(x)$ or does not label the page.	Correct plot but incorrect function.	Does not attempt to plot the independent variable against dependent variable. No attempt to create a matching function.  May turn in the starting sketch unchanged.

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## #20. Reflection and Feedback on EMAT 3500 ([evaluation form](#))

Your assignment is to complete the evaluation form that can be downloaded as a MS Word document from the above link. You can type on the form and then print it out. This will be completely anonymous. Jaehong will collect the forms and cross your name off his list as you place it in the envelope before the presentations of your Final Project on your Final Exam morning. This is your chance to reflect on YOUR contribution to EMAT 3500, the effort you put into it, the results you got out of it, how it was taught, offer suggestions, point out assignments, technologies or readings that were helpful to you, say something nice, be critical etc... Your feedback is very valuable to us and to this department!!

**Due: Final Exam Day, Thursday, December 11, 2008**

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## Final Project (60pts)

Click [here](#) for details on this final assignment

**Post first draft by 5:00 p.m. on Monday May 4  
Presentation on Final Exam Day, TBD**

**Links for Presentations will be added here as soon as I receive them:**

