

SYLLABUS

♥ MATH 125 _ INTERMEDIATE ALGEBRA ♥

SECTION # 4490

FALL 2014; SEP 1-DEC 21

CLASS MEETING: TTh 7:15 – 9:50 PM

LOCATION MSA 109

CONTACT METHODS : Access Me Via

EMAIL GHARAMJ@WLAC.EDU

(MOST PREFERRED CONTACT METHOD)

VOICEMAIL 310 434 8023

(NOT RELIABLE METHOD BUT INEVITABLE ALTERNATIVE.)

Sample email:

Subject: Math 125 SID 2514 I forgot to pick up my quiz

Can I have my Quiz 4 next time?

Sample voicemail:

Math 125, SID two-five-one-four 25-14.
I am unable to attend class today 10-5-2014. I will
submit the reason of absence next time.

OFFICE HOURS

- **Day:** TTh **Time:** 6:30 – 7:10 PM; **Location:** Conference Room Math dept. (Classroom Upon Availability)
- You can email me your questions. I will try to address your concern if writing is a possible option.

REQUIREMENTS: Students are advised to bring the following on each session.

1. TEXTBOOK (or e- BOOK)

Intermediate Algebra 11th Edition, Lial, Hornsby, McGinnis; PEARSON/ Addison Wesley
ISBN-13: 978-0-321-71541-8; ISBN-10: 0-321-71541-1

2. GRAPHING CALCULATOR (OR SCIENTIFIC CALCULATOR)

TI-84 Graphing Calculator is an advisory instrument that you can use for making tedious calculations and graphs. Checking your answers with calculator is a good idea but **students are not permitted to use calculator on exams (Unless otherwise determined.)**.

3. 3-HOLE BINDER FOR CLASS NOTES AND FOR HOMEWORK

Please use three-hole binders for keeping your notes and class assignments separate. Keep your writings clean and organized. There is never enough time to search for things in class.

PREREQUISITE: Successful completion of Math 115, or by placement exam.

INSTITUTIONAL SLO - STUDENT LEARNING OUTCOMES:

- A. Critical Thinking: Analyze problems by differentiating fact from opinions, using evidence, and using sound reasoning to specify multiple solutions and their consequences.
- B. Quantitative Reasoning: Identify, analyze, and solve problems that are quantitative in nature

PROGRAM SLO

1. Apply quantitative thinking processes using basic mathematical operations to solve common academic, workplace, and family problems. (Theme: mathematical operations)
2. Use mathematical tools essential for analyzing quantitative problems and for producing solutions. (Theme: mathematical tools)
3. Select appropriate math strategies for solving and handling real life problems involving finance, economics, and family issues. (Theme: mathematical problem-solving)

COURSE SLOS

1. Apply quantitative thinking processes using basic mathematical operations (addition, subtraction, multiplication, division) to solve common academic, workplace, and family problems. (Theme: mathematical operations)
2. Use mathematical tools essential for analyzing quantitative problems and for producing solutions. (Theme: mathematical tools)
3. Select appropriate math strategies for solving and handling real life problems involving finance, economics, and family issues. (Theme: mathematical problem-solving)

COURSE DESCRIPTION:

This course is equivalent to the second year of high school algebra. Topics will include rational, irrational and complex numbers; fundamental operations on algebraic expressions and functions; introduction to polynomial, rational, exponential and logarithmic functions, equations and graphs; circles and parabolas. Emphasis is on “advanced” algebraic factoring and simplification.

Course Entry Skills

Prior to enrolling in Math 125 student can perform all of the following:

- Solve linear, quadratic, literal equations, systems of equations and linear inequalities by choosing an appropriate method.
- Graph linear equations and inequalities
- Simplify exponential expressions
- Factor general trinomials at an elementary level
- State and apply quadratic formula
- Add, subtract, multiply, and divide polynomials, square roots and exponential expressions
- Simplify complex fractions, square roots and exponential expressions
- Solve introductory level equations with rational expressions
- Translate and solve algebraic word problems in a single variable
- Given the description of a graph of a line, write the equation of that line
- Define and use properties of equality and inequality
- Recognize and use common mathematical language to describe mathematical processes in either written or verbal form
- Apply units of measurements in the solution of algebraic applications as appropriate

EVALUATION: FINAL EXAM, TEST, QUIZ, HOMEWORK

All graded materials are counted from 100.

TESTS (55% OF THE FINAL GRADE, TIME 7:15 – 8:45 PM)

You will take Five **TESTS**, each with 15 – 20 questions. Dates for all five **TESTS** are in course schedule (page 7).

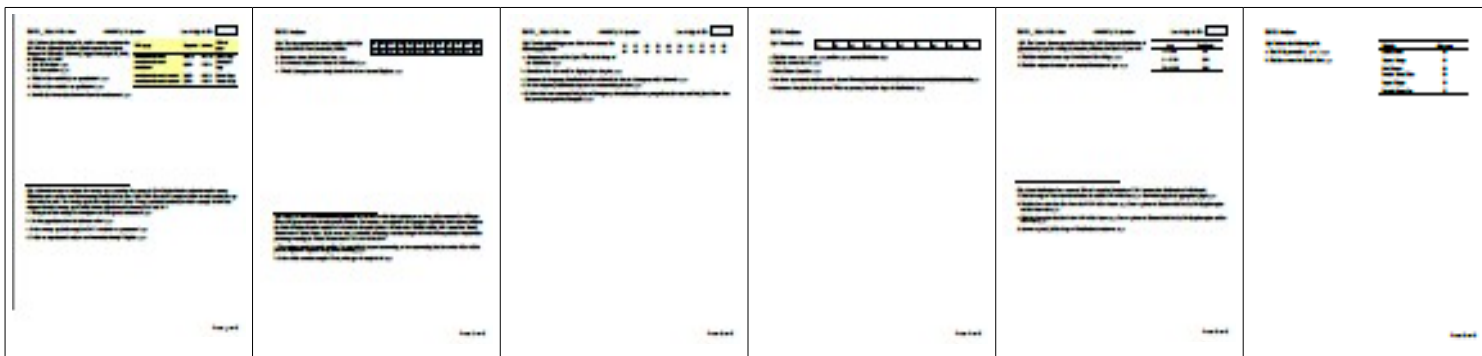
Majority of questions on **TESTS** are from problems solved in class during lecture or Q&A period. Quizzes and Worksheets are designed professionally to prepare student for **TEST** and also for the Final exam.

Points you earn on **TEST** are based on an elaborated rubric² prepared for **shown work** and **final answer**. A right answer without clear and non confusing supportive work can't be evaluated fairly and deducted points are not negotiable. Never assume that your teacher can read your mind.

Graphs are to be drawn using rulers and proper scaling mechanism. Labeling information used in graphing must be accompanied with the graph.

Provided spaces for question on exams must be large enough to fit your work and answer. If you are unable to fit your work in those spaces, please email me and let me provide you with extra large spaced version of the exam.

Due to time restrictions I am unable to grade unorganized exams.

Sample TEST:

- **All grading materials should be returned in about a weekend period.**
- **Returned Materials not picked up by the owner(or owner's confidential classmate), will be archived for only one week period and they will be discarded afterward.**
- **The only collected document that won't be returned to student is the FINAL EXAM.**

- **This is a 16-week course. A 16-week course means 16 weeks of unstoping hard work toward a fair and acceptable achievements of all listed course outcomes. (Last three weeks of the semester is the most crucial time of the semester.)**
 - **A successful classroom is a combination of entities working in the spirit of goupwork away from all sort of “POLITICS”. It is an act of utmost courage to accept our shortfalls.**
 - **Remember: No one can claim to be perfect. I can learn from your productive criticism as you are going to learn **math 125** from me.**
 - **When you ask questions ... you keep your class alive. And there is a beauty to be in a class that every element in it works toward the true spirit of something that gathered us all together.**
 - **The first lesson that I am going to record it for you is the following:
MATHEMATICS = PRACTICE ME MORE**
 - **Now you are ready for the second one which is
Question? = ASK!**

QUIZZES (5% OF THE FINAL GRADE, 5 MINUTES FOR EACH QUESTION)

Student will be asked to answer at most 2 questions of your choice from a pool of problems. Questions are selected from HW and lecture problems. Homework assignments that you asked me to explain during **previous** class sessions are the targeted quiz problems and you will see the similar versions on quizzes.

You will receive two pieces of papers on each quiz, question sheet and answer sheet^{Samp Quiz}. Your grade on quiz is based on right (credit) and wrong(no credit) answers. Only answer sheet will be collected for grading. The question sheet stays with you as of the upcoming **sample test**.

Objectives that I am pursuing in this portion of your Math 125 evaluation are to

- encourage students being ontime and stay focused for the **entire** session,
- encourage students in active participation and full engagement,
- providing you with more TEST content materials,
- showing whether you had enough practice on the last session's emphasized topics,
- keeping track of your performance during semester, and
- To make an educational decision about your overall evaluation on the final roster.

HOMEWORK (10% OF THE FINAL GRADE)

Your success or failure in any math course is the result of your approach to the homework segment of the course.

Based on mutual agreement homework has two forms, hand-written and computer based^{Register}. There will be a separate guideline for online homework.

Please meet the deadline for each assigned homework. Late homework is not acceptable and it won't be collected. However you are required to complete your homework for the end of semester partial credit opportunities.

There are many resources available in and outside the campus to assist you with the homework. Please consider spending some time in HLRC to get help from your classmates and tutors on completing your assignments.

Your Homework will be graded based on the following seven rules:

1. Well organized solution to every assigned problem. (No credit for partially solved assigned problems.)
2. All assigned problems must be explicitly shown on your homework with order. If you decide to skip any, there should be enough space to solve it later. (No credit for lack of it.)
3. Clearly separated work and final answer. (-5 if not.)
4. Well addressed and boxed final answers. (To address problem number 13 from section 5.3 write $\frac{13}{5.3}$. (-5 if not)
5. Problems must be separated with a decent amount of space so you can embed corrections if required. (- 5 if not)
6. Graphs must be accurate and *unless otherwise specified*, all calculations must be done with complete accuracy. Only final answer can be rounded to three decimal places. (- 5 for lack of it.)
7. Your final answers must match with the correct answers available to students for the odd numbers. (- 5 if not.)

Homework is being checked randomly and checked problem(s) will be chosen randomly. If I declare about collecting homework, you need to provide me with the page(s) containing requested problem(s). If your homework is not ready, please write your reason (excuses) on a piece of paper and turn it in (**Otherwise you will be considered absent**). Your score will be determined on bases of above rules. Any deduction applied to your homework will be reasoned by the rule number (1 – 7) , so you can correct the fault in your next homework.^{Sample HW}

DEPARTMENTAL FINAL EXAM (30% OF THE FINAL GRADE, 40 MULTIPLE-CHOICE QUESTIONS) Thursday, December 18, 2014 time 7:00 – 9:00 pm

FINAL is comprehensive which means questions are from all topics we cover in this class. Questions on final exam are top secret. It is always a common practice for Math departments to embed questions at the level of basic arithmetic, prealgebra and elementary algebra. This is why you are told to make your operations manually to get enough practice on basic operations that you are going to see on your final exam. Students are strongly advised to start the study for the final exam from week 14th. Missing Final Exam will result in failing the course.

The purpose of having departmental final exam is to monitor the target class, including instructor, for the correct coverage of all topics as well as the quality of the coverage. The department understands that a qualified “to pass” student must be able to score a passing grade for the final exam. Imagine an A or B student fails the final exam. Do you think your teacher has any supportive sentence for your case?^{Samp Final}

NO MAKEUP EXAM POLICY (“I HAD A DEVASTATING FAMILY EMERGENCY, CAN I MAKE UP MY MISSED ??????”)

Any missed assignment (Final, TEST, Quiz, Homework) will be counted 0 credit.

Missing “one” TEST score, proven to be legitimate, will be replaced with your final exam score.

Two lowest quizzes will be dropped.

Unfortunately, I am unable to make any more accommodations for students missing homework deadlines. You can submit your missed HW on the day of final to get some partial credit.

STUDENT PERFORMANCE REPORT (WHAT IS MY CURRENT GRADE?)

Please use the following simple expression to estimate your current status in this class regarding your stance and score whereabouts.

$$(\text{Average of TESTs}) \times 0.85 + (\text{Average of Quizzes}) \times 0.05 + (\text{Your estimation of current HW status}) \times 0.10$$

Above estimation is within one letter grade accuracy, however, you have better understanding of your situation, your weakness and your strength in this course.

GRADING:

Homework	10
Quizzes	5
Tests	55
Final Exam	30

SCALE: **A:** 89 – 100 **B:** 79 – 89 **C:** 68 – 79 **D:** 58 – 68 (failing) **F:** 58 (failing)

IN AND OUT OF CLASS ACTIVITIES:

- Pre-study the upcoming lecture. Write down all your questions and ask me if they have not been addressed yet.
- Take your assignments very seriously and complete your assigned work on time. Deadlines and all due dates are set to be observed without exception. If you are planing for a successful semester, you can not afford to miss even one deadline stated in your schedule.
- Expect to spend at least **FOUR hours** per day studying textbook, class materials, and HW. Exact adjustment of required hours will be perceived later during the semester.
- Please take a realistic look to your schedule. Make sure that you truly have time to dedicate to the course and semester.
- Although the role of HW in student’s success is irrefutable, your active presence on every single session can be as much vital. Missing, though partially, a class puts student in disadvantage and the recovery from shortfalls frustrating. Keep your seat warm by your presence.
- Take advantage of instructor’s office hours. Office hours are arranged times that you can see me in person to ask about your questions and any course related matters. Try it! There won't be any regret, promise!

- Math Lab located on the first and second floor of HLRC needs to be filled and reconstructed by all students. Grab a table with your classmates or just be yourself and bug tutors for stealing guide on your questions. You can help others too!
- **Math Study Room** located at **MSB 217** invites individuals or study groups to participate in their offered help under the supervision of an instructor. This is a perfect opportunity to meet another teacher for the same subject.
- Group study works!! Make your own study team with your classmates and work together not only outside the classroom but also in class activities.

After each exam (TEST/QUIZ) you must work on exam questions and answer to all questions. Keep the exam and their solutions together in your assignment binder in chronological order. Quizzes and Tests are your sample final exam.

ATTENDANCE:

Unless there is a documented and acceptable reason, **TEN hours** absence from the class time would entitle the student to be **excluded** from the class. It is your responsibility to drop the course. Being **late** or leaving **early** is considered half-absence. Please INITIAL in front of your name upon entering and leaving the class in attendance sheet. Late students are welcomed to take the first available seat close to the door. **College's rules for Withdrawal are to be enforced without any exception.** Please be advised that:

*No absence excuses a student from making up the work missed.
Student is responsible for the announcements made in class at the time of absence.*

CLASS COMPORIMENT:

As a matter of courtesy, arrive before 7:15 pm and stay for the entire session.

Plan for Three hours in each session to stay and work with me in class. Restrict your phone calls, and all other needs to 15 minutes break time that we are directed to hold.

Be attentive and focused for the entire session. Your participation is mandatory and will be graded accordingly.

Turn off all communication means and devices. Students are not allowed to take their phone calls, pages, emails, and any outside communications in or during the class session.

Participate in class discussion, have full involvement in the subject, and be respectful of others' right.

Any cheating which includes unauthorized cooperation on any graded assignments will be directly reported to responsible entities and the exam will be discarded. Please refer to the **LACCD Code of Academic Conduct** for more information about actions taken in this circumstances. Any infringement upon the rights of others will not be tolerated as well.

Students are allowed to drink water in class. Please do not bring edible items in class.

Break time: 8:30 – 8:45 PM. Please remind me about the break time.

DISABILITY POLICY:

Heldman Learning Resources Center (HLRC) DSP&S opens doors for students with special physical, communication or learning needs. DSP&S is located on the First Floor of HLRC. Please contact the center for any special consideration. I accommodate all necessities you might need in this regard upon receiving the required direction from the center. Please contact (310) 287-4450 for more information.

IMPORTANT DATES:

<p>Deadlines:</p> <p>Apply for Pass/No Pass, Sep 12 Drop classes with a refund Sep 12 Drop classes without a W Sep 12</p> <p>Drop classes with a "W" Nov 21</p>	<p>HOLIDAYS (CAMPUS IS CLOSED):</p> <p>Nov 11, Nov 27 – 30</p> <p>Final Grades due on Friday Dec 25, 2014</p>
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CLASS STRUCTURE:

Sign in and sign out. Students with a **perfect** attendance will be granted by 2 points extra credit. If attendance sheet is not available then you are present. We will start by 15 – 30 minutes of Q&A. Please write your questions on a piece of paper and hand it in. The class will continue with the lecture using whiteboard, projector, calculator and group work. Quiz can be given at any time of the class period.

Course Exit Expectations

Upon successful completion of Math 125 student is able to:

- Simplify advanced numerical and algebraic expressions involving multiple operations

- Solve linear, quadratic, rational and absolute value inequalities, graph their solution sets, and express the answer in interval notation
- Solve linear equations for a designated variable
- Apply algorithms of completing the square, rationalizing the denominator, and long division and synthetic division of polynomials
- Solve linear, quadratic form, simple cubic, radical, rational, absolute value, elementary exponential, and elementary logarithmic equations
- Solve systems of linear equations in three variables using matrix row reduction
- Graph the solution sets of systems of linear and quadratic inequalities
- Perform operations on complex numbers
- Perform operations on functions including composition of two functions and determine the domain of the resulting function
- Use proper mathematical notation to evaluate functions and obtain their inverses
- State and apply the fundamental properties of exponents and logarithms
- Demonstrate knowledge of standard vocabulary associated with graphing, including but not limited to slopes of lines, intercepts, vertex of parabola, asymptotes, and interplay between graph and functional notation
- Given its graph, determine whether a relation is a function and whether it is one-to-one, and determine its intercepts and domain and range
- Graph using horizontal and vertical translations and determine the domain and range of linear, quadratic, simple cubic, radical, reciprocal, absolute value, exponential and logarithmic functions
- Graph circles and parabolas using horizontal and vertical translation
- Evaluate simple expressions involving summation notation
- Set up and solve practical applications of the algebraic material

Disclaimer:

Your instructor, Jilbert Gharamanians, is the responsible entity for the content of this syllabus. Any discretionary changes must be done by his permission only.

As an instructor in this class I am DIRECTED to hold all the evaluations (TEST and FINAL EXAM) according to the standard of the Mathematics Department Policy.

Recommended homework assignments are for grading purpose and they will be collected by random. This means that the assignments are not necessarily enough to understand the targeted concepts. If you have difficulty, please try more of the exercises.

Internet Resources

- West Los Angeles College www.WLAC.edu
- WolframAlpha <http://www.wolframalpha.com/>
- Purple Math <http://www.purplemath.com/>
- Math TV <http://www.mathtv.com/>
- Khan Academy <http://www.khanacademy.com>

Please write the phone number and email address of at least three of your classmates in spaces provided here. Having some contact information from your classmates will help you during the semester.

- Name: _____ Phone #: _____ email: _____
- Name: _____ Phone #: _____ email: _____
- Name: _____ Phone #: _____ email: _____

I, _____, read and completely understood the content of this syllabus. If there are questions or disagreement with the content, I will contact the author, Jilbert Gharamanians, before 9/9/2014.

Your Initials: _____

Tentative Schedule for Math 125

Day Week	Tuesday	Thursday
1st Week Sep 2, 4	Lecture Ch1; 2.1 HW 1.1; 1.2; 1.3; 1.4; 2.1	Lecture 2.2, 2.3, 2.4 HW 2.2; 2.3; 2.4
2nd Week Sep 9, 11	Lecture 2.5, 2.6, 2.7 HW 2.5, 2.6, 2.7	Lecture 3.1, 3.2, 3.3 HW 3.1, 3.2, 3.3
3rd Week Sep 16, 18	Lecture 3.4, 3.5, 3.6 HW 3.4, 3.5, 3.6	TEST #1; Chapter 1, 2, 3 Lecture 4.1, 4.2 HW 4.1, 4.2
4th Week Sep 23, 25	Lecture 4.3, 4.4, Appendix A HW 4.3, 4.4, Appendix A	Lecture 5.1, 5.2, 5.3 HW 5.1, 5.2, 5.3
5th Week Sep 30, Oct 2	Lecture 5.4, 5.5, Appendix B HW 5.4, 5.5, Appendix B	TEST #2; Chapters 4, 5 Lecture 6.1 HW 6.1
6th Week Oct 7, 9	Lecture 6.2, 6.3, 6.4 HW 6.2, 6.3, 6.4	Lecture 6.5, 7.1 HW 6.5, 7.1
7th Week Oct 14, 16	Lecture 7.2, 7.3, 7.4 HW 7.2, 7.3, 7.4	Lecture 7.5, 7.6 HW 7.5, 7.6
8th Week Oct 21, 23	TEST #3, Chapters 6, 7 Lecture 8.1, 8.2 HW 8.1, 8.2	Lecture 8.3; 8.4 HW 8.3; 8.4
9th Week Oct 28, 30	Lecture 8.5, 8.6 HW 8.5, 8.6	Lecture 8.7, 9.1 HW 8.7, 9.1
10th Week Nov 4, 6	Lecture 9.2, 9.3 HW 9.2, 9.3	Lecture 9.4, 9.5, 9.6 HW 9.4, 9.5, 9.6
11th Week Nov 11, 13	No Classes – Campus Closed	Lecture 9.7, 10.1 HW 9.7, 10.1
12th Week Nov 18, 20	TEST #4, Chapters 8, 9 Lecture 10.2, 10.3 HW 10.2, 10.3	Lecture 10.4, 10.5 HW 10.4, 10.5
13th Week Nov 25, 27	Lecture 10.6, 11.1 HW 10.6, 11.1	No Classes – Campus Closed
14th Week Dec 2, 4	Lecture 11.2, 11.3 HW 11.2, 11.3	Lecture 11.4, 11.5 HW 11.4, 11.5
15th Week Dec 9, 11	TEST #5, Chapters 10, 11 Lecture 12.1, 12.2 HW 12.1, 12.2	Lecture 12.3, 12.4 HW 12.3, 12.4
16th Week Dec 16, 18	Review Final Exam	Departmental FINAL Exam Please bring Scantron (count2); No 2 Pencil, eraser

TEST 4_ Continue

Q.4: Solve.

$\log_2(x-1) - \log_2(x+2) = 2$

9

$\log_2 \frac{x-1}{x+2} = 2$ 2 $\rightarrow \frac{x-1}{x+2} = 4$

$\frac{x-1}{x+2} = 2^2$ 2 $\rightarrow \frac{x-1}{x+2} = 4$

$x-1 = 4(x+2)$ 1
 $3x+8 = -1$ 2
 $3x = -9$
 $x = -3$ 2

check $x = -3$

$\log_2 -3 - 1$ 2 ~~X~~

No Solution

Q.5: Solve.

$\left(\frac{1}{4}\right)^{x+1} = 8^x$

$4^{-(x+1)} = 8^x$ 1

5

$2^{-2(x+1)} = 2^{3x}$ 2

$-2(x+1) = 3x$ 1

$-2x-2 = 3x \rightarrow 5x = -2$

$x = -\frac{2}{5}$ 1

12

Q.6: Solve. $4x^2 + 3y^2 = 4$
 $6y^2 - 2x^2 = 3$

$\begin{cases} 4x^2 + 3y^2 = 4 \\ -2x^2 + 6y^2 = 3 \end{cases}$ 1 1

$4x^2 + 3\left(\frac{2}{3}\right) = 4$ 1

$15y^2 = 10$ 1

$4x^2 = 4 - 2$

$y^2 = \frac{10}{15} \rightarrow y = \pm \sqrt{\frac{2}{3}}$ 2

$4x^2 = 2$

$x^2 = \frac{2}{4}$

$y = \pm \frac{\sqrt{6}}{3}$ 1

$x^2 = \frac{1}{2} \rightarrow x = \pm \sqrt{\frac{1}{2}}$ 1

Solutions:

$\left\{ \left(\frac{\sqrt{2}}{2}, \frac{\sqrt{6}}{3}\right), \left(\frac{\sqrt{2}}{2}, -\frac{\sqrt{6}}{3}\right), \left(-\frac{\sqrt{2}}{2}, \frac{\sqrt{6}}{3}\right), \left(-\frac{\sqrt{2}}{2}, -\frac{\sqrt{6}}{3}\right) \right\}$ 2

$x = \pm \frac{\sqrt{2}}{2}$ 2 1 (26)

Q.1: Prove that $C(3, -6)$ is on the perpendicular bisector of segment AB where $A(-4, -3)$ and $B(6, 1)$.

Q.2: The equation of a circle is given by $x^2 + y^2 + 4y = 0$.

- a. Sketch the graph of the circle on the template provided.
- b. Write the equation of upper, lower, right and left semicircles.

Q.3: Solve the inequality. Express the solution using interval notation.

$$\frac{(x^2+1)(x-3)}{x^2-9} \geq 0$$

Q.4: The braking distance d (in feet) of a certain car traveling v mi/hr is given by the equation $d = v + (v^2/20)$. Determine the velocities that result in braking distance of less than 75 feet.

Q.5: Solve $4x^4 + 25x^2 + 36 = 0$.

Q.6: Find the values of x and y , where x and y are real numbers.

$$(2x - y) - 16i = 10 + 4yi$$

Please answer to 2 questions only.

MATH 7; SMC

QUIZ 2; 7/7/2014

LAST 4-DIGIT OF SID :

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Enroll students

Students need to have three things before they can [register and enroll](#) in a new course:

[Course ID](#): gharamanians90922

[Email address](#) : We prefer school email address (If not available then use your personal one.)

The student's registration and enrollment confirmation is sent to this email address. This address is also available to the instructor, for course-based communications.

Student access code, a valid credit card, or a PayPal account

Students get an access code with a new book purchase or by buying the code separately in a Student Access Kit or card at the campus bookstore. Students can also buy access to a course online with a credit card or PayPal account while they are enrolling. The student access code is nontransferable and can be used only once.

If a student is waiting for financial aid, they can [request temporary access](#) to your course without payment for 14 days.

A student who does not already have a Pearson account and is enrolling for the first time should go to the [MyLab & Mastering website](#) and click [Get Registered](#) for instructions.

A student with a Pearson account performs the steps in [Register and Enroll in a New Course](#) below to enroll in a new course. To assist all students, print or copy these instructions to a document and distribute them, along with your course ID.

Students who need to enroll in another course based on the same textbook as a current or previous course should enter their Pearson Account Profile to enroll. They do not need to use a new access code or make a payment. To enroll in another course these students should:

1. Go to <https://register.pearsoncmg.com/userprofile> and sign in on the Pearson Account Profile page.
2. Under the list of MyLab & Mastering products, click Enroll in a Course.
3. Enter the course ID from the instructor of the new course, confirm the course information, and click Continue.
If the student is prompted to provide an access code or purchase course access using a credit card or PayPal, the course materials do not match the previous course. The student should contact the instructor.
4. Click Enter Course Now to start using the new course.

Register and Enroll in a New Course

1. Go to <http://pearsonmylabandmastering.com> and click Student under Register.
2. Click Register Now.
3. Enter the course ID you received from your instructor for your new course, and click Continue.
Course ID: gharamanians90922
4. After verifying your course information, enter your username and password, and click Sign in.
If you don't have a Pearson account, click Create an account and follow the onscreen instructions. Look for helpful hints to guide you.
5. On the Register page, select one of the following access options:
 - Use an Access Code
 1. Click Access Code and paste the entire access code into the first box.
 2. Click Finish to complete your registration.
 - Purchase Access Online
 1. Under Use a Credit Card or PayPal, click the button for the access level you want. For example, a product might be offered with or without an eBook. The button shows the subtotal for your order.
 2. Select whether you want to pay with a credit card or use PayPal, then enter payment information.
 3. Click Review to review your order details. If you need to change anything, click Change. Click Cancel if you decide not to complete your purchase.
 4. Click Make Payment to submit your order.
 - Request Temporary Access
If a student is waiting for financial aid, 14 days of temporary course access without payment may be available.
 1. Click Get temporary access without payment for 14 days at the bottom of the Register page.
 2. When a confirmation message appears, click Yes to complete your registration.
You will receive a confirmation email with payment instructions.
6. Click Go to Your Course to access your course.

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17)
8.1

$$x + y = 4$$

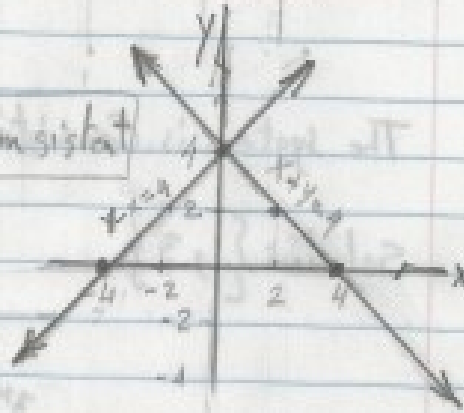
x	y
0	4
4	0
2	2

$$y - x = 4$$

x	y
0	4
-4	0
-2	2

The system is Consistent

Solution $\{(0, 4)\}$



19)
8.1

$$x - 2y = 6$$

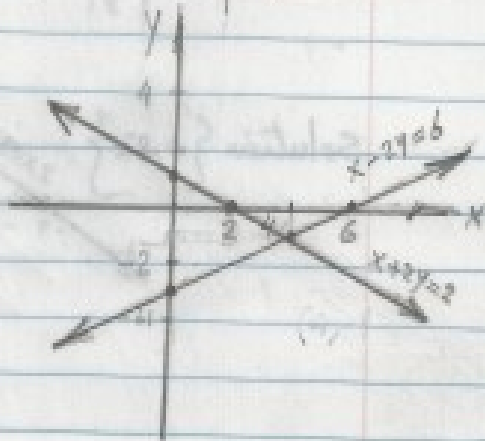
x	y
0	-3
6	0
4	-1

$$x + 2y = 2$$

x	y
0	1
2	0
4	-1

The system is Consistent

Solution $\{(4, -1)\}$



Samp Final

1.) Find the solution set for the inequality: $|2x - 1| + 2 < 7$
 A.) $x < 3$ B.) $-3 < x < 2$ C.) $-2 < x < 3$ D.) $x > 2$

2.) Which shows the equation of a line, in slope-intercept form, that passes through the points (2,2) and (-1,1)?
 A.) $y = 3x + 4$ B.) $y = -\frac{1}{3}x + \frac{4}{3}$ C.) $y = -3x + 4$ D.) $y = \frac{1}{3}x + \frac{4}{3}$

3.) Given the equation $3x - 2y = 5$ of a line, what is the slope and the y-intercept of this line?
 A.) $m = \frac{2}{3}, b = -\frac{5}{3}$ B.) $m = \frac{3}{2}, b = -5$ C.) $m = -\frac{2}{3}, b = \frac{5}{2}$ D.) $m = \frac{3}{2}, b = -\frac{5}{2}$

4.) If (x,y) is the solution to the linear system $-3x + 5y = 1$ then $x + y = ?$
 $9x - 3y = 5$
 A.) $x + y = 1.56$ B.) $x + y = \frac{13}{9}$ C.) $x + y = \frac{14}{9}$ D.) $x + y = 1.44$

5.) For the function given by $y = f(x) = 2x - 5$, find the inverse function, $f^{-1}(x)$.
 A.) $f^{-1}(x) = \frac{1}{2x-5}$
 B.) $f^{-1}(x) = \frac{1}{2}x - \frac{5}{2}$
 C.) $f^{-1}(x) = -\frac{1}{2}x + \frac{5}{2}$
 D.) $f^{-1}(x) = \frac{1}{2}x + \frac{5}{2}$

6.) If (x,y,z) is the solution to the linear system: $-2x + y - 3z = 7$ then $x + y + z = ?$
 $2x - 3y + z = -9$
 $x - y + 2z = -5$
 A.) $x + y + z = 4$ B.) $x + y + z = 1$ C.) $x + y + z = 0$ D.) $x + y + z = -1$

11.) Solve the equation $x^2 - 4x + 13 = 0$
 A.) $2 \pm 6i$ B.) $2 \pm 3i$ C.) $2 \pm \sqrt{17}$ D.) $2 \pm 2\sqrt{17}$

12.) Solve the equation $24x^2 = 14x^2 - 2x$, add the roots together and select the sum of the roots from the possibilities given.
 A.) $\frac{8}{15}$ B.) $\frac{1}{3}$ C.) $\frac{7}{12}$ D.) 0.45

13.) A manufacturer of camera lenses estimated that the average monthly cost of production is given by the function $C(x) = 0.1x^2 - 20x + 2000$, where x is the number of lenses produced each month. Find the number of lenses the company should produce in order to minimize the average cost.
 A.) 25 B.) 100 C.) 75 D.) 50

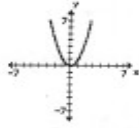
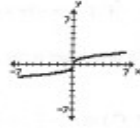
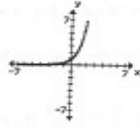
14.) For the graph of the quadratic function $f(x) = 2x^2 - kx + 3$, what is the correct equation for the axis of symmetry?
 A.) $x = \frac{4}{k}$ B.) $x = \frac{k}{4}$ C.) $y = \frac{k}{4}$ D.) $y = -\frac{k}{4}$

15.) What is the domain of the rational function $f(x) = \frac{x-1}{x^3 - 4x^2 + 3x}$?
 A.) $\{x | x \neq 0, 3\}$ B.) $\{x | x \neq 0, \frac{3}{2}, 3\}$ C.) $\{x | x \neq 0, 1, 3\}$ D.) $\{x | x \neq \frac{3}{2}, 3\}$


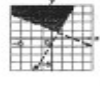

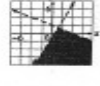
16.) Solve the equation: $x + 2 + \frac{x}{x-2} = \frac{2}{x-2}$. Add the root(s) together and select their sum from the options below.
 A.) -1 B.) 5 C.) -3 D.) -5

17.) Simplify the complex fraction:
 $\frac{x+1 - \frac{4}{x-2}}{x-4 - \frac{24}{x-2}}$
 A.) $\frac{x-3}{x-8}$ B.) $\frac{x-6}{(x-4)(x+4)}$ C.) $\frac{x-3}{x-28}$ D.) $\frac{(x+3)(x-2)}{(x-8)(x+2)}$

7.) Worldwide carbon dioxide CO₂ emissions have increased from 14 billion tons in 1970 to 26 billion tons in 2000. Write a linear function that gives worldwide carbon emissions as a function of time since 1970 (t = 0). Use this function to predict the amount of CO₂ emissions in the year 2015. In 2015, the predicted amount of CO₂ emissions will be:
 A.) 112.5 tons B.) 48 tons C.) 115 tons D.) 32 tons

8.) Which of the following graphs represent y as a function of x, i.e. $y = f(x)$?
 i.)  ii.)  iii.) 

A.) none B.) ii and iii only C.) ii only D.) i, ii, and iii

9.) Graph the solution set of the system of linear inequalities: $2x - y > 1$
 $x + 2y < 4$
 A.)  B.) 
 C.)  D.) 

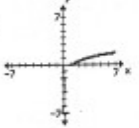

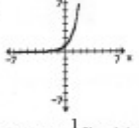
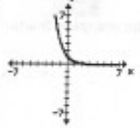
10.) Find the x-intercepts of the function $y = f(x) = x^2 - 6x + 7$.
 A.) $(3 + \sqrt{2}, 0)$ and $(3 - \sqrt{2}, 0)$
 B.) $(3 + 2\sqrt{2}, 0)$ and $(3 - 2\sqrt{2}, 0)$
 C.) $(2 + \sqrt{6}, 0)$ and $(2 - \sqrt{6}, 0)$
 D.) $(4.41, 0)$ and $(1.57, 0)$

18.) The intensity (I) of a light source is inversely proportional to the square of the distance (d) from the source. If the intensity is 48 lumens at a distance of 12 feet, what is the intensity at a distance of 6 feet?
 A.) 1.5 lumens B.) 1 lumen C.) 192 lumens D.) 24 lumens

19.) Divide: $\frac{x^2 - 4x + 3}{x^2 + 5x - 6} \cdot \frac{x^2 - 2x - 3}{x^2 - x - 2}$
 A.) $\frac{(x+3)(x-2)}{(x-3)(x+6)}$ B.) $\frac{(x-2)(x-1)}{(x+6)(x+1)}$ C.) $\frac{x-2}{x+6}$ D.) $\frac{x+2}{x-6}$

20.) Subtract: $\frac{x}{x+4} - \frac{4-x}{x^2-16}$
 A.) $\frac{2x-4}{(x-4)(x+4)}$ B.) $\frac{x-4}{x+4}$ C.) $\frac{x+1}{x+4}$ D.) $\frac{-4}{x^2-16}$

21.) Write $\log\left(\frac{x^4}{y^3}\right)$ in expanded form.
 A.) $\frac{\log(x^4)}{\log(y^3)}$ B.) $4\log(x) - 5\log(y)$ C.) $\frac{4}{5}\log\left(\frac{x}{y}\right)$ D.) $\frac{4\log(x)}{5\log(y)}$

22.) Graph $y = f(x) = \log_5(x)$
 A.)  B.) 
 C.)  D.) 

23.) Express $\frac{1}{2}[\log(x) + \log(y)]$ as a single logarithm.
 A.) $\log(\sqrt{x} + \sqrt{y})$ B.) $\log(\sqrt{xy})$ C.) $\sqrt{\log(xy)}$ D.) $\log(xy)^2$

24.) Write the logarithmic expression $y = \log_5(x)$ in its equivalent exponential form.

- A.) $y = b^x$ B.) $x = b^y$ C.) $y = x^b$ D.) $x = y^b$

25.) Solve $7 + 3^x = 27$ and round your answer to the nearest hundredth.

- A.) $x = 0.82$ B.) $x = 2.73$ C.) $x = 3$ D.) $x = -0.82$

26.) Solve for x : $\log_2(x^2 - 2x) = 3$

- A.) 4 B.) 4, -2 C.) 2 D.) 2, -4

27.) In a certain country, the number of people (in millions) below the poverty line can be modeled by

$$P(t) = 20e^{0.001t} \text{ with } t = \text{years since 2000}$$

According to this model, how many people will be below the poverty line in 2025? Round your answer to the nearest million.

- A.) 110 million B.) 115 million C.) 90 million D.) 536 million

28.) In the formula $A(t) = A_0\left(\frac{1}{2}\right)^{t/k}$, $A(t)$ is the amount of radioactive material present at any time, t . A_0 is the initial amount present at $t = 0$ and k is the half-life of the material. A sample of the radioactive element einsteinium contained 2 mg. Four hundred fifteen days later the sample contained 0.7 mg. What is the half-life of einsteinium in days? Round your answer to the nearest whole number of days.

- A.) 1613 days B.) 297 days C.) 274 days D.) 629 days

29.) Rewrite $\sqrt[3]{a^4}$ as an exponential expression.

- A.) a^{20} B.) a^2 C.) $a^{3/4}$ D.) $a^{4/3}$

30.) Simplify: $\sqrt[3]{125x^{12}y^9}$

- A.) $5x^9y$ B.) $125x^4y$ C.) $5x^4y$ D.) $5x^9$

31.) Divide: $\frac{5}{4+i}$

- A.) $\frac{4}{3} - \frac{1}{3}i$ B.) $\frac{20}{17} - \frac{5}{17}i$ C.) $\frac{4}{3} - \frac{1}{15}i$ D.) $\frac{20}{17} - \frac{1}{17}i$

32.) An object is dropped from a tall tower. Find the distance the object has fallen when the speed reaches 320 ft/sec. Use the equation $v = \sqrt{64d}$, where v is the speed of the object and d is the distance.

- A.) 25 feet B.) 625 feet C.) 1600 feet D.) 40 feet

33.) Solve the equation $4\sqrt{x+1} - x = 1$. Add the root or roots together and find the correct sum below.

- A.) 15 B.) 16 C.) 14 D.) 2

34.) For the function $y = f(x) = \sqrt{x-50} + 25$, identify the correct domain of the function.

- A.) $(-\infty, 50]$ B.) $[50, \infty)$ C.) $(-\infty, \infty)$ D.) $[-25, \infty)$

35.) Find the distance in the plane between the two points $(-1, 3)$ and $(2, -4)$.

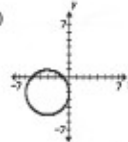
- A.) $\sqrt{10}$ B.) $2\sqrt{5}$ C.) $\sqrt{58}$ D.) $2\sqrt{13}$

36.) Salt Lake City, Utah, is 498 miles directly south of Helena, Montana, and is 1030 miles directly west of Omaha, Nebraska. What is the distance, rounded to the nearest mile, between Omaha and Helena?

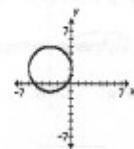
- A.) 902 miles B.) 1,144 miles C.) 1,528 miles D.) 1,308,904 miles

37.) Sketch the graph: $x^2 + y^2 - 6x + 4y + 4 = 0$

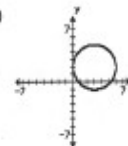
A.)



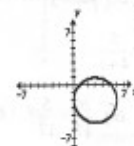
B.)



C.)

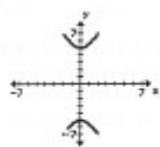


D.)

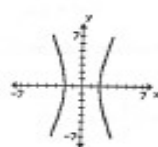


38.) Sketch the graph of $25x^2 - 4y^2 - 100$

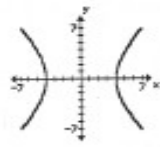
A.)



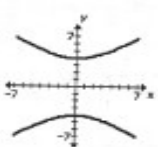
B.)



C.)



D.)



39.) Solve the system: $\begin{cases} x^2 + 4y^2 = 25 \\ x^2 - y^2 = 5 \end{cases}$

- A.) $(-3, 2)$ and $(3, 2)$
 B.) $(3, 2)$, $(-3, 2)$, $(3, -2)$, and $(-3, -2)$
 C.) $(2, 3)$, $(2, -3)$, $(-2, 3)$, and $(-2, -3)$
 D.) $(3, 2)$ and $(3, -2)$

40.) Write the first three terms of the expansion of $(2x - y)^6$.

- A.) $64x^6 - 192x^5y + 240x^4y^2$
 B.) $64x^6 - 32x^5y + 16x^4y^2$
 C.) $64x^6 + 32x^5y + 16x^4y^2$
 D.) $64x^6 + 192x^5y + 240x^4y^2$