MATH 1314
College Algebra
Spring 2011, Synonym 28240, Section 021
TTh 4:00pm - 5:50pm
Northridge Campus: Room NRG3 3232
Syllabus Version 1
May 23, 2011

Instructor: Peter Nagel, Ph.D.
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Office Hours: TTh 5:55pm-6:25pm in NRG Portable Building 4 . Meetings outside of office hours may be arranged via email.

Text *College Algebra with Modeling and Visualization* by Gary Rockswold, 4th ed. ISBN # 0-32154230-4, Text bundled with MyMathLab, ISBN # 0-321-57704-3, Optional Supplements: *Students Solution Manual* (step-by-step solutions to odd-numbered exercises and chapter review exercises) ISBN # 0-321-57702-7 , Videotape Series, Digital Video Tutor, MyMathLab Software (CD for Windows) ISBN # 0-321-57703-5 .

     You can access the material from the first two weeks online at http://www.austincc.edu/mthdept2/text. You will need the following: password: acc1314

DVDs: There is a set of video DVDs keyed to the text by section in the Learning Resource Center of each campus. Students who miss class or who need extra review may find these useful. Also, with the bundled text with MyMathLab is a set of video tutorials.

Course Description MATH 1314 COLLEGE ALGEBRA (3-3-0). A course designed for students majoring in business, mathematics, science, engineering, or certain engineering-related technical fields. Content includes the rational, real, and complex number systems; the study of functions including polynomial, rational, exponential, and logarithmic functions and related equations; inequalities; and systems of linear equations and determinants. Prerequisites: MATD 0390 or satisfactory score on the ACC Assessment Test. (MTH 1743)

Course Prerequisite: Intermediate Algebra (MATD 0390) or current knowledge of high school algebra as measured by the Assessment Test. Students who have a great deal of difficulty with the Pretest and/or review and have not had Intermediate Algebra or its equivalent recently should consider withdrawing and taking Intermediate Algebra.

Calculator Students need either a scientific or business calculator. (Has log or ln key.) If a student cannot purchase one, calculators are available from the LRS. Graphing calculators are not required, but you will use graphing technology in most sections of the book. Graphing calculators are also available in the LRS.

Instructional Methodology This course is taught in the classroom primarily as a lecture/discussion course.

Course Rationale This course is designed to teach students the functional approach to mathematical relationships that they will need for a business calculus sequence. Other courses, such as MATH 1332, or MATH 1342 are more appropriate to meet a general mathematics requirement. Check with your degree plan as to what math course your college requires.

Common Course Objectives Common course objectives are attached. They can also be found online at:
http://www.austincc.edu/mthdept2/tfcourses/obj1314.htm

Grading The grades in this course will be weighted among the following required components:

- Homework : 10%

- Exams : 70%

- Final Exam : 20%

Letter grades will be assigned on the following basis: A = 90% - 100%, B = 80% - 90%, C = 70% - 80%, D = 60% - 70%, F < 60%. If the performance on the exams during the semester warrants, the lowest score may be down-weighted (but not dropped).

Exams There will be 4 exams during the semester and 1 final exam to be held during the final week of class. The exam schedule is as follows:

- Exam 1, Friday June 10th - Monday June 13th. (to be taken in the Testing Center)

- Exam 2, Friday July 1st - Tuesday July 5th. (to be taken in the Testing Center)

- Exam 3, Friday July 15th - Monday July 18th. (to be taken in the Testing Center)

- Exam 4, Friday July 29th - Monday August 1st. (to be taken in the Testing Center)

- Final Exam, Tuesday August 2nd (Part I) and Thursday August 4th (Part II).

Missed Exams Missed Exams can be made up. If the reason for the absence is valid, the exam can be made up within two days of the original date without any loss of credit. For unexcused absences, 25% of the grade will be deducted after the exam is made up.

Homework The list of homework problems is given on the homework sheet. The homework problems for each section will be due on the Monday after that section is covered in class (see the course calendar). Up to 10 problems will be graded for each week's worth of homework problems assigned.

Late Homework Homework may be turned in for a grade after the due date, but 10 % may be deducted for each week it is late The deadline for late homework will be the day of the exam on which that section appears.

Online Content Optional exercises will be available online via MyMathLab. See the MyMathLab information sheet for more details on using MyMathLab. For each sections worth of online homework completed one point will be added to your homework grade.

Attendance Attendance is required in this course. Students who miss more than 4 classes MAY be withdrawn. Missed exams that are made up will not be counted as missed classes.

Class Participation Class participation (and attendance) may have an influence on the final letter grade. Borderline grades may be raised or lowered based on attendance and participation in class discussions.

Support Services Some mathematics credit courses are supported by optional lab courses. This lab is designed for students currently registered in College Algebra, MATH1314. It offers individualized and group settings to provide additional practice and explanation. The lab course itself is strictly supportive and is not for college-level credit. Repeatable up to two credit hours. Students should check the course schedule for possible offerings of the lab class.

ACC main campuses have **Learning Labs** which offer free first-come first-serve tutoring in mathematics courses. The Learning Lab at the Northridge Campus is located in Building 4000, Room 4119. Further information such as other locations, contact information and hours of availability of the Learning Labs are posted at:
http://www.austincc.edu/tutor/

Withdrawal It is the students responsibility to initiate all withdrawals in this course. The instructor may withdraw students for excessive absences (4), but makes no commitment to do this for the student. After the withdrawal date (July 25th), neither the student nor the instructor may initiate a withdrawal.

Incomplete Grade Policy Incomplete grades (I) will be given only in very rare circumstances. Generally, to receive a grade of "I", a student must have taken all examinations, be passing, and have a personal tragedy occur after the last date to withdraw which prevents course completion.

Reinstatement Policy Reinstatement will be determined on a case by case basis.

Statement on Scholastic Dishonesty "Acts prohibited by the college for which discipline may be administered include scholastic dishonesty, including but not limited to, cheating on an exam or quiz, plagiarizing, and unauthorized collaboration with another in preparing outside work. Academic work submitted by students shall be the result of their thought, work, research or self-expression. Academic work is defined as, but not limited to, tests, quizzes, whether taken electronically or on paper; projects, either individual or group; classroom presentations; and homework."

" Students who violate the rules concerning scholastic dishonesty will be assessed an academic penalty which the instructor determines is in keeping with the seriousness of the offense. This academic penalty may range from a grade penalty on the particular assignment to an overall grade penalty in the course, including possibly an F in the course. ACC's policy can be found in the Student Handbook page 33 or on the web at: http://www.austincc.edu/handbook "

Statement on Student Discipline "Classroom behavior should support and enhance learning. Behavior that disrupts the learning process will be dealt with appropriately, which may include having the student leave class for the rest of that day. In serious cases, disruptive behavior may lead to a student being withdrawn from the class. ACC's policy on student discipline can be found in the Student Handbook under Policies and Procedures or on the web at: http://www.austincc.edu/handbook ."

Statement on Students with Disabilities "Each ACC campus offers support services for students with documented physical or psychological disabilities. Students with disabilities must request reasonable accommodations through the Office of Students with Disabilities on the campus where they expect to take the majority of their classes. Students are encouraged to do this three weeks before the start of the semester."

"Students who are requesting accommodation must provide the instructor with a letter of accommodation from the Office of Students with Disabilities (OSD) at the beginning of the semester. Accommodations can only be made after the instructor receives the letter of accommodation from OSD."

Statement on Academic Freedom "Institutions of higher education are conducted for the common good. The common good depends upon a search for truth and upon free expression. In this course the professor and students shall strive to protect free inquiry and the open exchange of facts, ideas, and opinions. Students are free to take exception to views offered in this course and to reserve judgment about debatable issues. Grades will not be affected by personal views. With this freedom comes the responsibility of civility and a respect for a diversity of ideas and opinions. This means that students must take turns speaking, listen to others speak without interruption, and refrain from name-calling or other personal attacks."

Testing Center Policy ACC Testing Center policies can be found online at:
http://www.austincc.edu/testctr
Northridge Testing Center (Building 3000, Room 3237) hours for Summer 2011 are M-F 8am-8pm, Sa 9am-4pm and Su Noon-5pm.

Student Services The web address for student services is:
http://www.austincc.edu/rss/ssover.html

The ACC student handbook can be found online at:
http://www.austincc.edu/handbook

MATH1314 College Algebra
Summer 2011 Course Calendar

Week 1 (5/24 & 5/26) : 1.1, 1.2, 1.3, 1.4

Week 2 (5/31 & 6/2) : 1.5, 2.1, 2.2, 2.3

Week 3 (6/7 & 6/9) : 2.4, 2.5, 3.1

      6/10 - 6/13 Test 1 (Ch 1, 2.1-2.4)

Week 4 (6/14 & 6/16) : 3.2, 3.3, 3.4

Week 5 (6/21 & 6/22) : 3.5, 4.1, 4.2

Week 6 (6/28 & 6/30): 4.3, 4.4, 4.5, 4.6

      7/1 - 7/5 Test 2 (2.5, Ch 3, 4.1-4.2)

Week 7 (7/5 & 7/7) 4.7, 4.8, 5.1

Week 8 (7/12 & 7/14) : 5.2, 5.3, 5.4, 5.5

      7/15 - 7/18 Test 3 (4.3-5.4)

Week 9 (7/19 & 7/21) : 5.6, 6.1, 6.3

Week 10 (7/26 & 7/28): 6.4, 6.5, 6.6 or 6.7

      7/29 - 8/1 Test 4 (5.5-6.7)

Week 11 (8/2 & 8/4): Review, Final Exam (Parts I & II)

Suggested Homework: *College Algebra through Modeling and Visualization*

Section - Problems
1.1: 9, 19, 23, 25, 39, 43, 53, 57, 63, 65, 79, 81, 85, 95
1.2: 21, 25, 43, 49, 55, 61, 63, 65, 69, 71, 73, 77, 85, 87, 91, 93*
1.3: 1, 3, 5, 7, 15, 19, 23, 25, 27, 32, 37, 43, 45, 47, 50*, 61, 67, 75, 77, 79, 81, 83, 87, 89, 91, 93,
        95, 97
1.4: 1, 9, 17, 19, 21, 27, 29, 31, 35, 37, 43, 53
1.5: 1, 5, 9, 13, 17, 21, 25, 29, 31, 35, 37, 43*, 47, 55, 61, 73, 77

2.1: 1, 3, 5, 9, 11, 15, 19, 25, 33, 37, 38, 39, 40, 41, 49, 53, 63, 67, 69, 73, 77
2.2: 5, 7, 9, 11, 15, 19, 31, 39, 41, 43, 47, 49, 51, 65, 71, 81, 87, 101, 103
2.3: 5, 13, 19, 21, 35, 47, 57, 61, 75, 79, 86, 87, 93, 101, 103, 105, 107
2.4: 1, 3, 5, 7, 9, 11, 13, 17, 23, 27, 37, 43, 47, 59, 63, 83, 87, 89
2.5: 1, 3, 7, 9, 13, 15, 16, 17, 18, 28, 35, 53, 61, 65, 71, 73, 75

3.1: 1, 3, 5, 7, 9, 11, 13, 17, 19, 25, 35, 39, 47, 51, 55, 59, 61, 63, 79, 81, 83, 85, 86, 87, 88
3.2: 1, 9, 15, 19, 25, 33, 39, 41, 45, 49, 53, 61, 63, 65, 68, 71, 83, 85, 87, 89, 93, 104, 115
3.3: 1, 3, 5, 7, 9, 11, 23, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 57, 61, 62, 63, 66, 75
3.4: 1, 3, 5, 7, 9, 11, 13, 21, 29, 31, 33, 43, 45, 47, 49, 51, 55, 61, 65
3.5   1, 3, 5, 7, 9, 11, 13, 21, 29, 31, 33, 37, 45, 47, 49, 51, 55, 65, 75, 79, 89, 93, 95

4.1: 1, 3, 5, 7, 9, 11, 15, 23, 25, 31, 35, 47, 53, 65, 69, 73, 81, 85, 91, 95*
4.2: 1, 3, 5, 8, 9, 15, 16, 25, 31, 35, 41, 45, 55, 67, 75, 77, 85
4.3: 7, 9, 13, 15, 21, 29, 32, 37, 39, 41, 43, 46, 47, 49, 51
4.4   1, 3, 7, 11, 13, 17, 21 , 31, 35, 39, 43, 47, 55, 57, 59, 61, 71, 79, 87, 95, 110
4.5: 1, 3, 5, 11, 15, 17, 21, 25, 29, 39, 41
4.6: 1, 7, 10, 15, 21, 24, 31, 33-36, 37, 45, 47, 49, 51, 53, 81, 85, 93, 96
4.7: 3, 5, 9, 11, 13, 17, 23, 25, 28, 29, 37, 40, 43, 47, 49, 57, 65, 71, 75, 84, 91, 93, 95, 103, 105, 108
4.8: 1, 5, 9, 13, 17, 18, 23, 27, 31, 33, 35, 45, 46, 53, 57, 63, 65, 67, 77, 83, 85, 87

5.1: 1, 3, 5, 7, 9, 12, 17, 23, 33, 35, 37, 39, 41, 53, 57, 61, 65, 72, 73, 77, 85, 97
5.2: 1, 3, 5, 7, 13, 15, 19, 23, 24, 29, 39, 41, 45, 49, 55, 56, 63, 71, 77, 81, 93, 95, 101, 105, 107,
        121, 123, 129
5.3: 1, 3, 5, 7, 9, 11, 13, 16, 17, 19, 21, 25, 27, 29, 37, 39, 41, 45, 47, 53, 55, 59, 61, 65, 69, 71, 72,
        87, 92
5.4: 1, 3, 5, 7, 11, 17, 19, 21, 23, 31, 33, 35, 37, 45, 49, 53, 57, 61, 69, 73, 75, 79, 83, 83, 99, 101,
        103, 105, 107, 117, 119, 121, 123, 125
5.5: 1, 5, 7, 11 13, 15, 23, 25, 26, 31, 32, 43, 45, 47, 52, 53, 65, 67, 75, 83, 90
5.6: 1, 3, 5, 9, 14, 17, 21, 27, 33, 37, 45, 49, 53, 55, 61, 69*, 72, 73, 75, 79, 83, 86, 93, 95, 101
6.1: 1, 3, 11, 21, 25, 29, 31, 32, 35, 37, 38, 43, 47, 51, 53, 58, 67, 71, 76, 81, 89, 113, 116, 122, 131,
        133, 139, 141
6.3: 1, 3, 5, 7, 9, 13, 17, 23, 27, 31, 33, 35, 37, 39
6.4: 1, 3, 5, 7, 9, 10, 11, 17, 19, 21, 23, 25, 27, 33, 39, 51, 57, 60,73, 75, 83
6.5: 1, 5, 10, 11, 13, 16, 21, 25, 31, 34, 35, 37, 39, 41, 44, 55*, 65, 67
6.7: 1, 3, 9, 11, 14, 18, 25, 28, 30, 33, 35

MATH1314 College Algebra - Objectives

Functions:

- Use and interpret function notation.

- Find the domain of polynomial, rational, radical, exponential, and logarithmic functions.

- Use composition of functions.

- Find inverses of functions algebraically (where possible), graphically, and numerically.

- Interpret the graphs of functions.

Graphing functions:

- Recognize the equations and sketch the graphs of the following: Lines, $x^2, x^3, x^{1/3}, x^{1/2}, 1/x, 1/x^2, |x|$, semi-circles, circles, factored polynomials of degree 3 or more, ax, logax, and their linear transformations.

- Find inverses of functions graphically.

- Find and sketch asymptotes of rational, exponential, and logarithmic functions.

- Describe the end behavior of all the above functions.

- Determine when it is appropriate to use a calculator or graphing technology.

- Approximate zeros of a function.

Symbolic Adeptness:

- Solve equations including quadratic, rational, literal, quadratic types, exponential, logarithmic, and equations with radicals.

- Solve polynomial and rational inequalities.

- Solve non-linear systems of equations.

- Use long division and the Fundamental Theorem of Algebra to find zeros of polynomials of degree three or more.

- Simplify fractions with terms having negative exponents.

- Rationalize numerators as well as denominators.

- Simplify complex fractions.

- Use completing the square to find the vertices of parabolas and centers and radii of circles.

- Evaluate exponential and logarithmic expressions with calculators.

- Use the rules for logarithms.

- Solve systems of linear equations using Gauss-Jordan Elimination and Cramer's Rule.

Applications

- Recognize and use applications of linear functions including linear models.

- Recognize and use quadratic applications, including falling object, maximum, and minimum problems.

- Recognize and use rational expression applications such as animal populations in parks.

- Recognize and use exponential and logarithmic applications, including exponential growth and decay, doubling time, and half-life.

- Recognize and use applications of systems of linear equations.

Austin Community College Department of Mathematics**
Alternatives to College Algebra

or

Hints to Help the Beginning Student Distinguish between
First-Level College-Credit Mathematics Courses

College Mathematics (ACC's MATH 1332) (UT's M302) **

Goal: To broaden the students' repertoire of mathematical problem-solving techniques past algebraic techniques.

This course covers a variety of mathematical topics such as set theory, logic, and probability. Students learn basic college-level techniques in a variety of mathematical areas and learn what types of problems can be solved with each technique. The algebra prerequisite for the course reflects the need for the students to have an understanding of the conceptual aspects of mathematics rather than a need for them to remember the details of how to solve all the types of algebra problems encountered in high school algebra. Students with weaker algebraic manipulative skills should still be able to complete this course successfully.

Elementary Statistics (ACC's MATH 1342) (UT's M316 or UT's STA309) **

Goal: To teach the student to do basic statistical analyses and to enable the student to be an "intelligent user" of standard statistical arguments.

The focus of this course is on using conceptual mathematical skills to solve a particular type of applications problems. Algebraic manipulation is not a major part of this course; however, students will be required to use formulas extensively. (A "pretest" indicating the level of skill expected is available from the mathematics department.) Enough explanation will be given that students who once learned algebra, but have forgotten many of the details, will be able to handle the algebraic aspects of the course easily.

Math for Business & Economics (ACC's MATH 1324) (UT's M303D,Texas State's M 1319) **

Goal: To teach the student some applications of algebra to business and economics problems and to provide a minimal level of algebraic foundation for the first semester of business calculus.

The focus of this course is on the applications problems, with algebra skills from the first two years of high school algebra used as necessary. Students who are not able to demonstrate all the skills from high school Algebra II just before beginning the course will probably find this course very difficult.

College Algebra (ACC's MATH 1314) (UT's M301, Texas State's M 1315) **

Goal: To provide the student with the algebraic foundation for calculus.

The student is expected to be currently confident and skilled in all topics from the first two years of high school algebra or from MATD 0390, Intermediate Algebra, and the new material will build on that foundation with little or no review. Students who are not able to demonstrate all the skills from high school Algebra II just before the beginning of the course will probably find this course very difficult.

UT = University of Texas at Austin

*Additional information about ACC's mathematics curriculum and faculty is available on the Internet at http://www.austincc.edu/math/

** It is the student's responsibility to determine if these courses are applicable to a specific degree plan at ACC or at another institution.

Prerequisites for Calculus

There are two calculus sequences at ACC (and at most colleges) -- Business Calculus and Calculus. The prerequisite sequence is different for these. Depending on background, students may start the prerequisite sequence at different places

Intermediate Algebra (MATD 0390)
↓
College Algebra**(MATH 1314)
↓
*Trigonometry (MATH 1316)
↓
Precalculus (MATH 2412)
↓
Calculus I (MATH 2413)
↓
Calculus II (MATH 2414)
↓
Calculus III (MATH 2415)

Intermediate Algebra (MATD 0390)
↓   ↓
Math for Bus & Eco   College Algebra
(MATH 1324)   (MATH 1314)
↓   ↓
Business Calculus I (MATH 1425)
↓
Business Calculus II (MATH 1426)

Where to start: The only way that students may skip courses in a sequence is to begin higher in the sequence, based on current knowledge of material from high school courses.
1. A student who needs a review of high school Algebra II will start in Intermediate Algebra (or below.)
2. A student who completed high school Algebra II, but no higher, and whose assessment test score indicates that he/she remembers that algebra, will start in College Algebra or Math for Business & Economics. A substantially higher assessment test score enables the student to start in Trigonometry.
3. A student who completed some precalculus, elementary analysis, or trigonometry in high school, and whose assessment test score indicates that he/she remembers algebra, is eligible to start higher in the sequence than College Algebra. Check the catalog or the math web page.***

* The material in the Trigonometry course requires that students are quite adept with the skills from high school Algebra II (Intermediate Algebra). Some students will achieve that level of skill in the College Algebra course if their placement score is high enough, while others need an additional semester of work on algebra that is done in two courses, Intermediate Algebra and College Algebra.

** Some students who are very successful in College Algebra are tempted to skip either Trigonometry or Precalculus and enroll in Calculus I. That is **not acceptable**. Trigonometry topics are essential to success in Calculus, and while it is true that the topic list for Precalculus has only a few additions from the topic list for College Algebra, the level of sophistication of the presentation and the problems on all topics is greater in Precalculus. That increased sophistication is necessary for an adequate background for the Calculus sequence. ***

Notes about the Business sequence: Texas State University requires Math for Business and Economics and Business Calculus I. Students who will attend the UT College of Business must complete the entire Business Calculus sequence before transferring. For more information, including requirements for UT economics students, see http://www.austincc.edu/mthdept2/notes/1425.html

*** For additional information, including prerequisite review sheets for most courses, see http://www.austincc.edu/math/

MyMathLab® | MyStatLab

Welcome Students!

MyMathLab and *MyStatLab* are interactive websites where you can:

- Self-test & work through practice exercises with step-by-step help to improve your math skills.
- Study more efficiently with a personalized study plan and exercises that match your book.
- Get help when YOU need it. MyMathLab & MyStatLab include multimedia learning aids, videos, animations, and live tutorial help.

Before You Begin:

To register for MyMathLab you will need:

☑ **A student access code** (packaged with your new text, sold at your bookstore, or available for purchase with a major credit card at www.coursecompass.com)

☑ **Your instructors' Course ID:** ___nagel27776_____

☑ **Your school's zip code:** _____78701_____

☑ **A valid email address** that you check regularly

Student Registration:

- Enter **http://www.coursecompass.com** in your Web Browser.
- Under **Students**, click Register.
- Read the "Before you start" information and click **Next.**
- Enter your **Course ID** exactly as provided by your instructor and click "**Find Course.**" *Your course information should appear. If not, contact your instructor to verify the correct Course ID.*
- Select **Access Code**, type your **Access Code** in the fields provided (one word per field), and click **Next**. *If you do not have an access code, click Buy Now and follow those prompts to purchase and register.*
- Read the License Agreement and Privacy Policy and click "**I Accept."**
- On the Access Information Screen, you'll be asked whether you already have a Pearson Education Account. Click:
    - "**YES**" if you have registered for other Pearson online products and already have a login name and password. Fields will appear for you to enter your existing login information.
    - "**NO**" if this is the first time you have registered for a Pearson online product. Boxes will appear for you to create your login name and password.
    - "**NOT SURE**" if you want to check for a pre-existing account and receive an email with your login name and password.

Simply follow the registration screens and enter your information as prompted. You will enter your name, email address, school information, and provide a security question/answer to ensure the privacy of your account.

Once your registration is complete, you will see a **Confirmation** screen (this information will also be emailed to you). Simply print your confirmation (remember to **write down your login name and password**) and you are now ready to Log in and access your resources!

Logging In:

- Go to www.coursecompass.com and click on **Log In**.
- Enter your **login name** and **password** and click **Log in**.
- On the left, click on the name of your course.

The first time you enter your course from your own computer and anytime you use a new computer, click the **Installation Wizard** or **Browser Check** on the Announcements page. After completing the installation process and closing the wizard you will be on your course home page and ready to explore your MyMathLab/MyStatLab resources!

Need help?

Contact Product Support at **http://www.mymathlab.com/student-support** for live CHAT, email, or phone support.

2009

Student Information for a Mathematics Course

Name: _____

ACC ID Number: _____ email address: _____

Address: _____

City and Zip Code: _____

Home Phone: _____ Work Phone:_____

Name and number of this course:_____

Name and course number of the prerequisite for this course:

_____

Please respond to the four items, and sign below:

1. Check the appropriate part, and give details below or on the back of the page.

   a. I have made a C or better in the prerequisite course at ACC. _____

     State what year and what grade._____

   b. I have made a C or better in the prerequisite course at another college. _____

     State what college, what course, what year, and what grade.

     _____

   c. I have satisfied the prerequisite for this course in some other manner. _____
     Give full details, including what course you took, your grade, and what year.

     _____

2. I took an ACC math assessment test. _____
   State what year and your score if you remember.

   _____

3. I am taking _____ credit hours, and working _____ hours per week.

4. I am registered for the optional lab for this course.

   Circle one: Yes   No

I understand that my instructor may drop me from the course if I do not have the proper prerequisite course. I also understand that failure to give accurate information about prerequisites is scholastic dishonesty. I affirm that the information I have given here about my fulfillment of the prerequisite is accurate.

Signature:_____   Date: _____

PRETEST
for MATH 1314, College Algebra
Due: Tuesday May 31st
Please put answers on a separate sheet of paper. Do not turn this sheet in.

1. Multiply:

   (a) $(x^2 + 2)(2x^2 - 3)$

   (b) $(3x + 2)(3x - 2)$

   (c) $(3x - 2)^2$

2. Factor completely:

   (a) $2x^2 - 5x - 12$

   (b) $8x^3 - 15x^2 - 2x$

3. Find the intercepts, identify the slope of the line, and graph: $5x - 2y = 10$.

4. Solve for x: $$-5 < -3(x - 1.5) \le 2$$.

5. Solve for a: $$a^2 + 4a = 45$$.

6. Solve for b: $$5b^2 - 5b + 1 = 0$$.

7. Let $f(x) = x^2 + 2x - 2$ and $g(x) = 2 - 3x$ Find the following:

   a) $f(-1)$ b) $g(-3)$ c) $f(a + 2)$

8. Let

   $$f(x) = \frac{5}{b+5} - \frac{2}{b}$$

   Find the domain and simplify.

9. Solve for x:

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

10. Identify the y-intercept, the vertex, and graph:

    $$y = 2(x - 3)^2 - 4$$

11. Simplify:

    (a) $3\sqrt{45} - 2\sqrt{125}$

    (b) $(-27)^{-\frac{1}{3}}$

12. Simplify:

    $$\frac{t^2 - 25}{t^2 + 8t + 15} \div \frac{t - 5}{t + 9}$$

13. If one side of a right triangle is 3 inches and the hypotenuse is 4 inches, how long is the other side of the triangle?

14. Solve this system of equations: $\begin{array}{l} 5x + 4y = -8 \\ 2x - y = -11 \end{array}$

15. Arelen wishes to invest $5000. If she invests part at 7% simple interest, part at 6%, and receives a total of $332 after one year, how much does she invest at each rate?