**Math 820: Pre-Algebra**  
**Section #1832**  
**TTh 11:00am-12:45pm, OC3508**  
**Spring 2009**

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**Parametric Cartesian equation:**

\[
x = (a - b) \cos(t) + c \cos((a/b - 1)t), \]
\[
y = (a - b) \sin(t) - c \sin((a/b - 1)t)
\]

**Course Description:** This course is designed to prepare students for Elementary and Intermediate Algebra. Course topics include thorough coverage of signed numbers, fractions and mixed numbers, decimals, square roots, percentages, basic algebra concepts involved with solving linear equations, and solving basic application problems.

**Course Objectives:** At the end of this course you should be able to (1) Apply the order of operations agreement, the rules of exponents, and the field properties over the real numbers; (2) Simplify arithmetic expressions involving signed numbers; (3) Apply the rules of signed numbers, rules of exponents, binary operations and the distributive property to evaluate algebraic expressions and combine like terms; (4) Derive solutions to linear equations and validate the results; (5) Translate applied problems with ratio, proportion and percent into computational problems and solve; (6) Apply geometric concepts to problem-solving; and (7) Add, subtract and multiply expressions with square roots.

**Student Learning Outcomes:** (1) Students will be able to apply the rules of signed numbers and rules of exponents to simplify algebraic expressions. (2) Students will be able to verify solutions of linear equations. (3) Students will be able to translate applied problems with ratio and proportion into computational problems involving a variable and solve.


**Calculators:** Although our first three tests are non-calculator tests, I encourage you to make use of a calculator to check your arithmetic on in-class assignments and homework. Test #4 and the Final Exam will each be given in two parts: one part is a non-calculator part, and the other is a calculator part.

**Course Evaluation and Grading:** Your course grade will be based on the following:

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation and Attendance</td>
<td>40 pts</td>
</tr>
<tr>
<td>Binder/Journal</td>
<td>70 pts</td>
</tr>
<tr>
<td>Homework</td>
<td>110 pts</td>
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<tr>
<td>Tests</td>
<td>580 pts</td>
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<tr>
<td>Final Exam</td>
<td>200 pts</td>
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</tbody>
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A = 895 - 1000  
B = 790 - 894  
C = 685 - 789  
D = 550 - 684  
F = below 549
In addition to homework, there will be 4 tests, and a Final Exam. **THERE ARE NO DROPPED TEST/EXAM/HOMEWORK SCORES** in this course.

If for ANY reason, you must miss class on the day of a test, you MUST make arrangements with me IN ADVANCE for taking the test at some other time. It is your responsibility to make the necessary arrangements **beforehand**. Make-up tests **may not** be given for full credit.

******The final exam date is Thursday, May 21st, starting at 10:30am.******

In this class we will be learning how to do problems algebraically in a step-by-step fashion. For all tests, points are assigned to steps and notation, as well as to the final answer. Getting the correct answer is only worth a small portion of the total points for the problem. To earn full credit for a problem, you must show all steps, use correct algebra and notation, and arrive at the correct answer.

**Participation and Attendance:** In order to get the most out of this course, plan to attend each class regularly, arrive on time, and stay for the entire period. Since attendance is mandatory, you will be dropped after the fourth absence. Re-enrollment *(which may occur once)* is possible, but you must discuss it with me first. Again, attendance is your responsibility as are its consequences.

It is your obligation, as well as your responsibility, to participate in class discussions and in-class assignments. I encourage everyone to be active learners; this means you ask questions in class whenever you do not understand something. In addition, I am available for individual assistance during my scheduled office hours, or by appointment. I advise you to get to know your classmates and to work in groups, if possible. **PLEASE NOTE:** 4% of the final grade is determined by class participation and attendance. I will take the following issues into consideration:

- Your ability to answer questions on assigned readings
- Your ability to focus on mathematics while in class, —saving personal conversations for outside the classroom
- Your ability to successfully work in small groups
- Your ability to offer insight to questions asked by fellow classmates
- Your ability to be on time to class
- Your ability to leave food or drinks outside the classroom
- Your ability to turn in assignments on time
- Your ability to refrain from talking to your neighbors when I am lecturing, —for some students the noise is distracting and disruptive
- Your ability to maintain a **positive and supportive attitude**, —being sensitive to the feelings of others, and avoiding criticism, teasing, or joking that might be hurtful

**School Holidays:** February 13th – 16th, and March 16th – 21st (Spring Break).

**Binder and Course Engagement Journal:** You will be asked to maintain a **three-ring** binder with class notes, **Lecture Notes**, and a **Course Engagement Journal**. This binder will be submitted and checked for coursework progress on a **weekly** basis. The entire binder contents and in particular, the journal portion of the binder will be reviewed on a **biweekly** basis by **both** your instructor and a counselor, Professor Wendy Horton. You will need to download and print the **Lecture Notes** for each chapter from the following web address:

[http://www.miracosta.edu/home/dbonds/Math820lectureresources09.html](http://www.miracosta.edu/home/dbonds/Math820lectureresources09.html)
Before you come to class, you should read and attempt the problems in the Lecture Notes for each section. These materials are an outline of what we will be doing during class. In addition to working on the Lecture Notes, you will be asked to maintain a Course Engagement Journal, where you will be asked to respond to 4 questions each week. Your honest responses should give us a reasonable understanding of your weekly progress with the coursework. The purpose of this binder is to keep you on pace for the course, promote communication, and to help us identify any topics where assistance/intervention might be needed.

7% of your total course grade will be based on the binder contents. Each time you submit your binder for a biweekly review, you will receive a score out of TEN points. This 10 point score will be based on 7 points for mathematical progress towards completion of the Lecture Notes, and 3 points for written responses for the journal questions.

**Homework:** Homework assignments will be given in class and will be checked/graded regularly. I expect assignments to be legible, neatly organized, and worked using 3 colors. (I will explain this in class). Some homework problems will be discussed during class, especially those that may have caused you particular difficulty. PLEASE NOTE: 11% of your final grade is based on your homework scores. Late homework will not be accepted.

**Success in this Course:** Mathematics is a "learn by doing" subject. A good rule is to set aside eight to twelve hours per week to do your homework assignments and to complete other study and learning tasks. These tasks include: completing homework, reading the text, doing examples from the text, making outlines or 3x5 cards, memorizing formulas, rules or processes, viewing videos or getting help from your instructor or from peers in the Math Learning Center (MLC), or the Tutoring & Academic Support Center (TASC). Do not allow yourself to fall behind in your work. Catching up before a test is an extremely difficult task.

In preparation for a given test, at a minimum, you should complete, all homework, and any review or supplementary handouts. I recommend that you review the sections and homework, and then complete the appropriate Chapter Review (these are posted on my website) with your book closed, showing steps and using algebra, and working under a two-hour time constraint. If you need to refer to the text when completing a problem, redo it until you can complete it correctly without reference. Then redo it again at a later date to be sure that you remember it. In order to assure that you are properly prepared for a test, you should practice in an environment as close as possible to the testing environment: using no references, write out all problems and solve them showing all steps and using algebra, and work under a two-hour time constraint.

**Office Hours:** My office hours are meant for you. If your schedule conflicts with mine, see me in class to make an appointment. I will hold the following scheduled office hours:

- Mondays: 3:00-3:30pm, Tuesdays: 3:30-4:00pm
- Wednesdays & Thursdays: 10:30-11:00am

**Learning Community/Extra-Credit:** Associated with this course is a learning community composed of students in this class. Your learning community will be lead by a student who is outstanding in teaching ability and knowledge of this course. Prior to each test, if you participate in two learning community meetings, you may receive a 4 percentage-point extra credit per test. Prior to each test, if you participate in one learning community meeting, you may receive a 2 percentage-point extra credit per test. PLEASE NOTE: Extra-Credit points can only be applied to test grades of C (68.5%), or better.

**Accommodation of Disability:** Students with verified disabilities who need academic accommodations should discuss options with me during the first two weeks of class. Please contact me and/or the Disabled Students Program and Services (DSP&S) Office for further information.
**Academic Integrity and Classroom Behavior:** This class will be conducted in accordance with MiraCosta College’s policy on “Rights and Responsibilities of Students and Staff Members,” and basic standards of academic honesty. Cheating, plagiarism, or other forms of academic dishonesty are not acceptable and will not be tolerated. Students are expected to respect and obey standards of student conduct while in class, or on the campus. Charges of misconduct and disciplinary sanctions may be imposed upon those who violate these standards of conduct, or provisions of college regulations.

*** Cellular-Phone and Pager Use Policy ***:

- If you carry a “pager” and/or a cell phone, turn them/it **OFF**, or set them/it to “Vibrating Mode” while in class.
- Disrupting the learning environment with use of cellular-phones and/or pagers can lead to being dropped from the class.

**Drops:** If you decide to drop the course, put in a Drop Card yourself. **Don’t wait for me to drop you automatically.** Withdraw W’s will be issued between January 31st and April 23rd. If I drop you and you want to be reinstated, see me quickly.

I look forward to getting to know each of you. Good luck, enjoy the course, and have a great semester!