

Math-1051: Precalculus I - Fall 2005;
Lecture: 10:10 AM-11:00 AM MWF (9/6/2005-12/14/2005),
Anderson Hall 370.

Lecturer: Peter Rejto

Office: VH 430, Tel:(612)625-4598, email: rejto@math.umn.edu

Office hours: M,W,F: 11:15 am.–12:05 pm. or by appointment

Recitation Instructor: Tyler Simmers

Office: VH 520, Tel:(612)624-2329, email: simm023@math.umn.edu

Office hours: Monday 3:30-4:30, Tuesday 11:00 - Noon, Wednesday 9:00 am. - 9:50 am. or by appointment

Dis011 09:05 am - 09:55 am. Th: Armory 116

Dis013 10:10 am - 11:00 am. Th: Armory 116

Dis015 11:15 am - 12:05 pm. Th: Armory 16

Recitation Instructor: Kuerak Chung

Office: VH 557, Tel:(612)624-5047, email: krchung@math.umn.edu

Office hours: Thursday 08:00-08:50, 13:25-14:15, 14:30-15:20.

or by appointment

Dis012 09:05 am - 09:55 am. Th: VinH211

Dis014 10:10 am - 11:00 am. Th: RapsonH54

Dis016 11:15 am - 12:05 pm. Th: VinH16

Course Description: According to the online course guide, this course covers the following topics: "Review of high school algebra. Linear and quadratic equations and inequalities; graphs of equations, including lines, circles, parabolas; composition, inverses of functions; transformations of graphs; linear and quadratic models; equations and inequalities involving polynomials and rational functions; exponentials and logarithms, with applications. Audience: Anyone wanting to complete precalculus at a moderate pace; the Math 1051/Math 1151 combination satisfies prerequisite for Math 1271 or Math 1371. Math 1051 and Math 1038 essentially equals Math 1031 and satisfies the CLE Mathematical Thinking requirement." This is a 3 credit course. The course offers a leisurely approach to the topics which we feel are necessary to succeed in calculus. We assume that you have had an algebra class before, but this course will review many concepts that you have seen in a high school algebra course. All Math courses, including this one, stress the fundamental mathematical processes of problem solving and logical analysis. This course will challenge you to look at new kinds of problems for the first time, and to look at old problems in new ways. All Math courses contain writing appropriate to mathematics. A correct answer unsupported by an explanation will receive little credit.

Text Book: Sullivan's Precalculus, 7th edition. You will need both the text book (kind of a bluish-green color) and the softcover book entitled Algebra Review, 3rd edition (also by Sullivan). They come together as a package at the bookstore if you buy them new.

Calendar: There will be three closed book, no notes, midterm exams on the following Fridays: September 30, October 28, and December 2. These tests will be during the normal class period; 10:10 AM-11:00 AM, Anderson Hall 370. Please let us know as soon as possible if you cannot attend one of the exams.

Grading: Homeworks and quizzes 15%, Closed book, no notes, Midterm Exams(3) 45%, Closed book, no notes, Final Exam 40%, Closed book, no notes.

Homework: Experience indicates that the more homework you do, the more you will understand. Problems assigned on Monday and the previous week are due on the following Friday. In fact, problems will be collected in class on each Friday of the week. If there is a test on that Friday, the homework will be collected the following Monday. Please check your recitation instructor's policy for late homeworks.

Calculators: Following math department policy for 1000 level courses, no graphing calculators will be permitted for use on any midterm or final exam. You will want to have a scientific calculator, which has only one or two lines of display and has logarithmic and exponential functions (e^x , x^y , $\ln x$, $\log x$). (Scientific calculators can be purchased for \$10 – \$20 from many places.

Makeup Exams: Regular attendance at both the lecture and the recitation is expected. You are responsible for any material and announcements made in class.

Here is the University Senate policy on makeup examinations: "Students shall not be penalized for absence due to unavoidable or legitimate circumstances. Such circumstances include, but are not limited to, verified illness, participation in intercollegiate athletic events or other group activities sponsored by the University, subpoenas, jury duty, military service, and religious observances. Students are responsible for providing documentation to the instructor to verify the reason for the absence. It is the responsibility of the student to notify faculty members of such circumstances as far in advance as possible. "

Following this policy, there will be a single makeup examination for each exam missed. The time and place of the makeup exam will be announced in class. **Please sign up for the makeup examination with your lecturer after the date has been announced. If your name is not on the list, the Math. Department Proctor will not give you an examination. Also, there is no makeup for the makeup.**

If you miss the final examination and do not have a formal excuse, you will receive a grade zero for the final examination. If you think you may have to miss the final exam, please let us know as soon as possible.

Webresources: Website for our Lecture 10, under construction,
<http://www.math.umn.edu/~rejto>
Lecture 40 website: <http://www.math.umn.edu/~gantner>
Some advice on how to succeed in mathematics can be found at,
<http://www.math.umn.edu/~koch/advice.html>.

Cheating: You are responsible for reading and understanding the University's Student Conduct Code at,
<http://www1.umn.edu/regents/policies/academic/StudentConductCode.pdf>.

Incompletes: Incompletes will only be allowed to those who have completed all but a small fraction of the course work successfully. In particular, in order to receive an incomplete (grade of I), you must have taken all of the midterms, come to class regularly, and be sporting a grade of C- or better at the time of the final.

Record Keeping: If there is a discrepancy between your records and ours, please let us know as soon as possible. In any case, we shall not change our records after two weeks.

FINAL EXAMINATION; closed book; no notes; uniform for all sections; comprehensive, all materials covered. Date: Thursday, December 15; 1:30 pm - 4:30 pm. (Place to be announced later.)

Approximate Course Outline:

Date	Week	Section
09/07/2005 Wednesday	1	AR Sections 1.7, 1.8
09/09/2005 Friday	1	AR Sections 2.4, 2.5
09/12/2005 Monday	1	AR Sections 2.5, 2.7
09/14/2005 Wednesday	2	AR Sections 3.2, 3.3
09/16/2005 Friday	2	AR Sections 3.3, 3.4
09/19/2005 Monday	2	AR Sections 3.4, 3.5
09/21/2005 Wednesday	3	AR Sections 4.1, 4.2
09/23/2005 Friday	3	AR Sections 4.2, 4.3
09/26/2005 Monday	3	AR Sections 4.3, 4.4
09/28/2005 Wednesday	4	P. Section 1.1
09/30/2005 Friday	4	Midterm Test 1
10/03/2005 Monday	4	P. Section 1.2
10/05/2005 Wednesday	5	P. Section 1.3
10/07/2005 Friday	5	P. Section 2.1
10/10/2005 Monday	5	P. Section 2.2
10/12/2005 Wednesday	6	P. Section 2.3
10/14/2005 Friday	6	P. Section 2.4
10/17/2005 Monday	6	P. Section 2.5
10/18/2005 Tuesday	7	P. Section 2.5
10/19/2005 Wednesday	7	P. Section 2.6
10/21/2005 Friday	7	P. Section 3.1
10/24/2005 Monday	8	P. Section 3.1
10/26/2005 Wednesday	8	Review, perhaps catch-up
10/28/2005 Friday	8	Midterm Test 2
10/31/2005 Monday	9	P. Section 3.2
11/02/2005 Wednesday	9	P. Section 3.3
11/04/2005 Friday	9	P. Section 3.4
11/07/2005 Monday	10	P. Section 3.5
11/09/2005 Wednesday	10	P. Section 3.5
11/11/2005 Friday	10	P. Section 4.1
11/14/2005 Monday	11	P. Section 4.2
11/16/2005 Wednesday	11	P. Section 4.2
11/18/2005 Friday	11	P. Section 4.3
11/21/2005 Monday	12	P. Section 4.3
11/23/2005 Wednesday	12	P. Section 4.4
11/25/2005 Friday	12	Thanksgiving Holiday
11/28/2005 Monday	13	P. Section 4.5
11/30/2005 Wednesday	13	Review, perhaps catch-up
12/02/2005 Friday	13	Midterm Test 3
12/05/2005 Monday	14	P. Section 4.6
12/07/2005 Wednesday	14	P. Section 4.7
12/09/2005 Friday	14	P. Section 4.7
12/012/2005 Monday	15	REVIEW (perhaps catch-up)

Suggested Exercises

Section, page	Problems
<i>AR.1.7, p.51</i>	4, 7, 9, 10, 11, 13, 19, 22, 23, 31, 34, 35, 40, 43.
<i>AR.1.8, p.55</i>	3, 4, 5, 6, 9, 11, 14, 16, 17, 18, 26, 31, 32, 36, 39, 43, 51, 55, 56, 61, 64, 66.
<i>AR.2.4, p.92</i>	3, 5, 8, 10, 16, 23, 24, 26, 28, 38, 42, 56, 57, 58, 65, 72, 78, 82, 91, 94, 96, 98, 100, 104.
<i>AR.2.5, p.100</i>	4, 6, 9, 15, 16, 18, 24, 25.
<i>AR.2.5, p.101</i>	30, 35, 38, 40, 44, 49, 50, 53, 54, 55, 56.
<i>AR.2.7, p.116</i>	3, 4, 7, 11, 21, 39, 40, 54, 58, 74, 94, 98, 100, 104.
<i>AR.3.2, p.146</i>	7, 8, 9, 14, 21, 26, 28, 33, 39, 42, 49, 50, 54, 57, 63, 68, 73.
<i>AR.3.3, p.152</i>	7, 8, 10, 11, 15, 22, 25, 26, 31, 33, 35, 37.
<i>AR.3.3, p.152</i>	41, 45, 52, 57, 61, 64, 67, 74, 76, 77.
<i>AR.3.4, p.162</i>	7, 8, 9, 14, 18, 25, 29, 36, 44, 49, 55, 58, 60.
<i>AR.3.4, p.162</i>	62, 65, 66, 73, 76, 80, 81, 84, 86, 87, 89, 90.
<i>AR.3.5, p.170</i>	6, 10, 15, 20, 23, 26, 27, 33, 36, 37, 38, 39.
<i>AR.4.1, p.186</i>	5, 6, 9, 14, 17, 23, 24, 26, 38, 49, 56, 58, 63, 67, 70, 72, 74, 76, 79, 82, 86, 88.
<i>AR.4.2, p.198</i>	36, 44, 45, 48, 49, 50, 60, 65, 70, 74, 79, 82, 87, 92, 94, 98, 100
<i>AR.4.3, p.205</i>	1, 2, 3, 6, 7, 8, 9, 10, 12, 13, 14, 16, 18, 29, 30, 32, 36, 40, 42, 44, 48, 52.
<i>AR.4.3, p.205</i>	53, 58, 61, 62, 65, 70, 71, 74, 79, 82.
<i>AR.4.4, p.210</i>	4, 5, 6, 8, 11, 14, 15, 17, 20, 31, 34, 37, 44, 4, 650, 53, 57, 58, 61, 64.
<i>P.1.1, p.6</i>	2, 3, 6, 7, 11 <i>d</i> , 12 <i>a</i> , 15, 17, 18, 29, 35, 39, 49, 50, 59, 60, 61, 66.
<i>P.1.2, p.19</i>	2, 3, 5, 7, 8, 9, 19, 23, 25, 26, 29, 31, 35, 37, 43, 47, 53, 61, 62, 101.
<i>P.1.3, p.34</i>	2, 8, 9, 11, 13, 14, 19, 23, 25, 26, 29, 31, 35, 37, 43, 47, 48, 53, 61, 62,
— — —	99, 100, 101, 104 <i>a</i> , 105, 106, 108.
<i>P.2.1, p.61</i>	1, 3, 5, 7, 9, 11, 10, 13, 15, 17, 21, 23, 27, 29, 33, 37, 41, 47, 55, 61, 62, 73, 80, 86, 89, 90, 92.
<i>P.2.2, p.68</i>	1, 3, 7, 11, 15, 17, 21, 23, 25, 27, 28, 29(<i>a - d</i>), 30(<i>a, b</i>), 34, 35, 37.
<i>P.2.3, p.80</i>	2, 3, 4, 6, 11, 15, 17, 18, 21, 23, 25, 27, 28, 29, 30, 34, 35, 37, 51, 58, 67, 68(<i>a - c</i>), 69, 73.
<i>P.2.4, p.90</i>	1, 3, 4, 10, 12, 19, 22, 24, 25, 27, 28, 29, 30, 34, 36, 37, 45(<i>a - c</i>), 46, 48, 49, 50, 51, 52.
<i>P.2.5, p.103</i>	1, 2, 3, 4, 10, 14, 20, 22, 24, 25, 27, 30, 34, 36, 37, 45, 47, 48, 49, 50, 51, 52, 81, 83.
<i>P.2.6, p.112</i>	2, 3(<i>a - b, d - e</i>), 5(<i>a - b, d - e</i>), 8 <i>a</i> , 10(<i>a - c, e</i>), 14, 15, 18, 20, 22, 24, 25, 26, 27 <i>a</i> , 32.

Section, page	Problems
<i>P.3.1, p.138</i>	1, 2, 3, 4, 8, 9, 10, 11, 19, 20, 22, 24, 26, 27, 35, 36, 38, 40, 42, 47, 54, 59, 60, 61, 62,
— — —	64, 69, 70, 76, $80(a - c)$, 83, 85, 86.
<i>P.3.2, p.158</i>	1, 3, 4, 18, 24, 38, 40, $96(b - c)$, 102.
<i>P.3.3, p.171</i>	2, 4, 12, 14, 20, 41, 42, 43, 44, 45, 46, 48, 49, 50, 53.
<i>P.3.4, p.185</i>	2, 7, 8, 10, $49(a, c)$, $50(a, c)$, $53(a, c, d)$.
<i>P.3.5, p.192</i>	1, 3, 4, 5, 6, 8, 12, 14, 16, 18, 21, 30, 32, 36, 37, 50.
— — —	51, 52, 53, 54, 57, 58, 59, 60, 61, 62, 64.
<i>P.4.1, p.229</i>	1, 2, 3, 4, 5, 6, $9a$, $10b$, $11c$, $14a$, $15b$, $15c$, $16a$, $16b$, $16c$, 19, 20, 22, 24, 27, 28, 32,
— — —	43, 44, 45, 46, 48, 50, 51, 57, 58, 60, 61, 62.
<i>P.4.2, p.241</i>	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 17, 23, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38,
<i>P.4.2, p.243</i>	39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 50, 51, 52, 53, 54, 55, 60, 62, 65, 66, 69, 71, 72, 76.
<i>P.4.3, p.255</i>	2, 3, 4, 5, $11a$, $12b$, $14c$, 19, 20, 29, 30, 37, 38, 40, 42, 76, 79, $81a$, 87, $87(a - d)$, 88.
<i>P.4.4, p.269</i>	1, 2, 3, 4, 8, 9, 10, 12, 13, 14, 17, 18, 33, 34, 36, 37, 40, 42, 45, 46, 48, 50, 53, 60,
— — —	91, 92, 94, 96, 98, 100, 102, 104, 111, $115(a - b)$, 116, 117, 119.
<i>P.4.5, p.280</i>	1, 2, 3, 4, 5, 7, 8, 9, 10, 12, 14, 16, 18, 20, 21, 22, 23, 24, 30, 31, 32, 24, 36, 40, 45, 50, 51,
— — —	52, 54, 56, 62, 68, 65, 66, 67, 68, 70, 72, 79, 80, 82, 84, 86, 89, 93, 94, 95, 101, 100.
<i>P.4.6, p.286</i>	1, 2, 3, 4, 5, 8, 10, 12, 14, 16, 17, 25, 26, 28, 30, 32, 34, 35, 36, 40, 41, 42, 44.
<i>P.4.7, p.294</i>	1, 2, 3, 4, 6, 8, 11, 13, 14, 16, 18, 20, 23, 25, 26, 28, 30.
<i>P.4.7, p.295</i>	31, 32, 34, 36, 38, 40, 42, 44, 45, 48, 49, 51, 52, 53, 54, 55, 56,