

Math 1431 - 15825

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Office Hours: 11:00 - Noon MWF

Course Homepage

* <http://www.math.uh.edu/~jmorgan/Math1431>

All of the important course information
is posted on this site!

Read the syllabus!

Key Points

Lab/Workshop
CourseWare Accounts
Access Codes
Homework
Daily Poppers
EMCF
Written Quizzes
Online Quizzes
Exams and Final Exam

<http://www.math.uh.edu/~jmorgan/Math1431>

Lab/Workshop

Every student is enrolled in a Lab or SEP workshop for this course. Lab/Workshop attendance is mandatory. In addition, written homework will be collected and written quizzes will be given in lab/workshop.

Section	MWF Time	Room
15826	8-9	103 SEC
15828	8-9	102 SEC
15829, 15830	8-9	101 SEC
15831	9-10	347 PGH
15832	9-10	301 AH
15833	12-1	204 AH
15834	12-1	105 SEC
15835	9-10	160 F
15827	Various - SEP	

15830 has been changed from 154 F to 101 SEC

CourseWare Accounts

* <http://www.casa.uh.edu>

Textbook, online quizzes, EMCFs, discussion board, exam scheduler **AND EXAM 1!!**

You need an Access Code for these items.
Purchase your Access Code at the UH Bookstore.

Access Codes

You need an **Access Code** to view the online text, take the online quizzes, and submit the EMCF answers.

Purchase your Access Code at the UH Bookstore.

Log into <http://www.casa.uh.edu> and input your Access Code.

Students have *very* restricted access until 12:01am on Sept. 10th. Take care of this now!

Written Homework

A new assignment will be given every week, and due the first lecture day of the following week in lab. Watch the course homepage for more information.

<http://www.math.uh.edu/~jmorgan/Math1431>

Daily Poppers

Daily Poppers will be given in lecture starting on the first class of week 3. You need a special "Popper" form. Go to the Book Store and ask for the packet for Math 1431, Section 15825.

<http://www.math.uh.edu/~jmorgan/Math1431>

EMCF

"EMCF" = "Electronic Multiple
Choice Form"

EMCF answer forms are available on *CourseWare* at
<http://www.casa.uh.edu>,
and the questions will be posted on the course homepage.
EMCF assignments will be due 2 to 3 times each week.

<http://www.math.uh.edu/~jmorgan/Math1431>

Written Quizzes

Written quizzes will be given every Friday in lab.
You are responsible for all of the material covered
through Wednesday of that week.

<http://www.math.uh.edu/~jmorgan/Math1431>

Online Quizzes

Online quizzes are available **NOW** through
CourseWare at

<http://www.casa.uh.edu>

**Practice tests will also be counted as
online quizzes.**

Four Exams and a Final Exam

The first exam is available online **NOW** at <http://www.casa.uh.edu>.

Exams 2, 3 and 4 will be proctored in CASA. The final exam is
comprehensive. Dates will be announced in class at least 2 weeks
in advance. The exam scheduler will be available on CourseWare
at least 2 weeks prior to each of exams 2, 3, 4 and the final exam.

More information is available at

<http://www.math.uh.edu/~jmorgan/Math1431>

Attendance and Classroom Behavior

- Come to class on time.
- Be prepared to start on time.
- Turn off your cell phone.
- Do not read the newspaper, cruise the web, or do anything that might disturb other students.
- Pay attention.
- Ask and answer questions.

<http://www.math.uh.edu/~jmorgan/Math1431>



Grades:

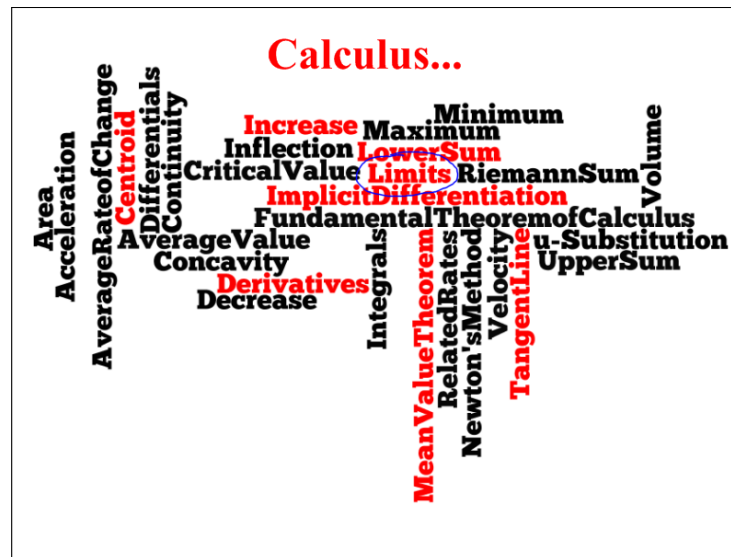
- 400 points** - exams 1, 2, 3, 4 (100 points each)
- 100 points** - weekly written quizzes and online quizzes
- 100 points** - poppers and EMCFs
- 200 points** - final exam
- Bonus ?? points** - complete the teacher evaluation form
- 800+ points** total

Note: The percentage grade on the final exam will replace your lowest test score.

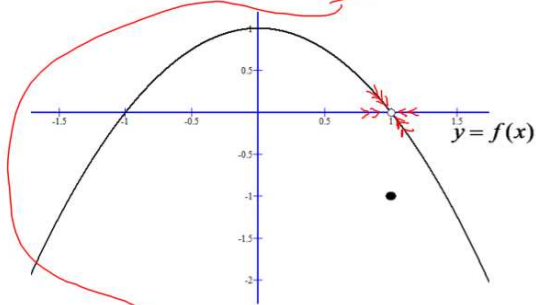
Mathematics is not a spectator sport.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
August 26 Purchase your Course Access Code from the UH Bookstore ASAP and input it on CourseWare (www.casa.uh.edu)	27 Blank Slides, Video Practices Test 1, Test 1, and Online Quizzes are Open Note: Test 1 is online, and there are only 2 attempts.	28	29 EMCF01 Due Online at 9am Homework 1 Posted	30	31 EMCF02 Due Online at 9am Quiz in Lab/Workshop	September 1
2 Note: There are only 2 attempts for online Test 1.	3 Labor Day Holiday	4 EMCF03 Due Online at 9am Last day to add a class via myUH.	5 Practice Test 1 and Test 1 Close. Homework 1 Due in Lab/Workshop Homework 2 Posted.	6	7 EMCF04 Due Online at 9am Quiz in Lab/Workshop	8
9 Online Quizzes can be attempted	10 Deadline to input your Course Access Code on CourseWare. Poppers Start in Lecture EMCF05 Due at 9am Homework 2 Due in Lab/Workshop Quiz 1 Closes (2.1-2.2)	11	12 Last day to drop without receiving a grade. EMCF05 Due at 9am Homework 3 Posted	13	14 EMCF05 Due at 9am Quiz in Lab/Workshop	15

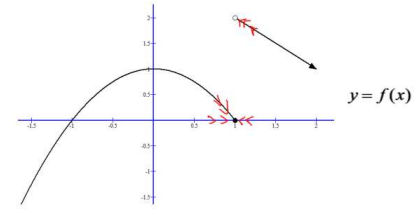
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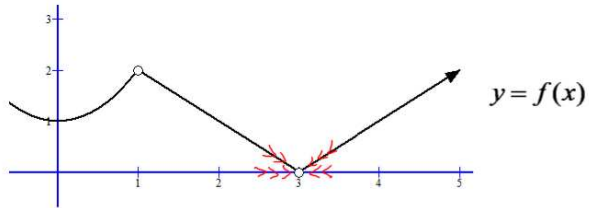
An Introduction To Limits



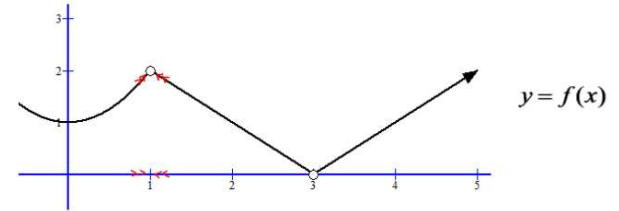
1. What value do we expect as x approaches 1 from the left?
2. What value do we expect as x approaches 1 from the right?
3. What value do we expect as x approaches 1?



1. What value do we expect as x approaches 1 from the left?
 2. What value do we expect as x approaches 1 from the right?
 3. What value do we expect as x approaches 1?
- Does not exist.
DNE

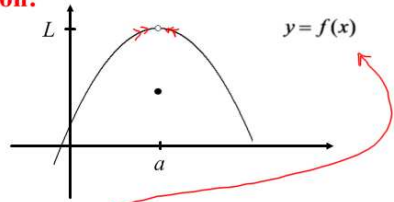


- What value do we expect as x approaches 3 from the left?
- What value do we expect as x approaches 3 from the right?
- What value do we expect as x approaches 3?



What value do we expect as x approaches 1?

Notation:



What value do we expect as x approaches a ? The limit of $f(x)$ as x approaches a .

$$\left\{ \lim_{x \rightarrow a} f(x) = L \right.$$

Notation: $y = f(x)$

What value do we expect as x approaches a from the left?

$$\lim_{x \rightarrow a^-} f(x)$$

What value do we expect as x approaches a from the right?

$$\lim_{x \rightarrow a^+} f(x)$$

What value do we expect as x approaches a ?

$$\lim_{x \rightarrow a} f(x)$$

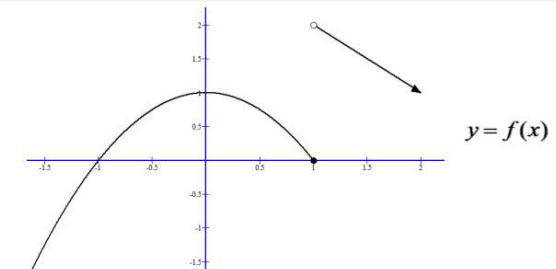
The Fundamental Relationship Between Left Hand Limits, Right Hand Limits, and Limits

The limit of $f(x)$ as x approaches the value a gives the behavior of $f(x)$ near $x = a$.

$$\lim_{x \rightarrow a} f(x) = L$$

if and only if

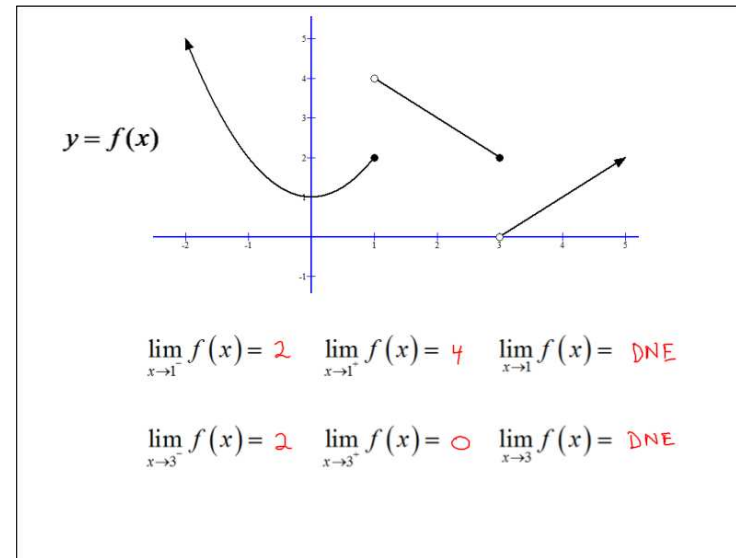
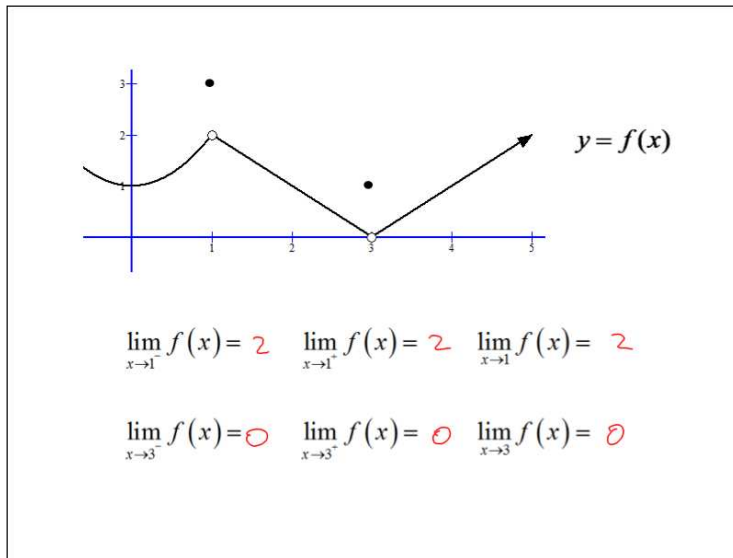
$$\lim_{x \rightarrow a^-} f(x) = \lim_{x \rightarrow a^+} f(x) = L$$



$$\lim_{x \rightarrow -1^-} f(x) = 0 \quad \lim_{x \rightarrow -1^+} f(x) = 0 \quad \lim_{x \rightarrow -1} f(x) = 0$$

$$\lim_{x \rightarrow 0^-} f(x) = 1 \quad \lim_{x \rightarrow 0^+} f(x) = 1 \quad \lim_{x \rightarrow 0} f(x) = 1$$

$$\lim_{x \rightarrow 1^-} f(x) = 0 \quad \lim_{x \rightarrow 1^+} f(x) = 2 \quad \lim_{x \rightarrow 1} f(x) = \text{DNE}$$



Example: $\lim_{x \rightarrow 1} \frac{x^2 - 1}{x - 1}$ $f(x) = \frac{x^2 - 1}{x - 1}$

Graphically **Algebraically** **Numerically**

$f(x) = \frac{x^2 - 1}{x - 1}$
 undefined at $x=1$.

$\lim_{x \rightarrow 1} \frac{x^2 - 1}{x - 1}$
 $= \lim_{x \rightarrow 1} \frac{(x+1)(x-1)}{(x-1)}$
 $= \lim_{x \rightarrow 1} (x+1) = 2$

Note:
 $f(x) = \frac{x^2 - 1}{x - 1}$
 $= \frac{(x-1)(x+1)}{(x-1)}, x \neq 1$
 $= x+1, x \neq 1$

$\lim_{x \rightarrow 1} f(x) = 2$

x	f(x)
1.1	2.1
1.01	2.01
1.001	2.001
0.9	1.9
0.99	1.99
0.999	1.999
0.9999	1.9999

↑
 These values indicated that the approach to 1 from either the left or right gives values that are getting closer and closer to 2. As a result, we expect the limit to be 2.

Read Sections 2.1, 2.2 and 2.3

An EMCF is due on Wednesday!
 Homework 1 will be posted by Wednesday!
Practice Test 1 and Test 1 are due online very soon.
 All of the Online Quizzes are posted!
 A written quiz will be given in recitation on Friday.

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