

Welcome To Math 34A!

Differential Calculus

Instructor:

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South Hall 6431X (Grad Tower, 6th floor, blue side, first door on the right)

Office Hours:

Mondays 2–3PM **Not Today!**

Tuesdays 10:30–11:30AM

Thursdays 1–2PM

or by appointment

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Please do not distribute outside of this course.

Math 34A is about...

- Problem-solving using reasoning
- Turning English into Math (and vice versa)

Math 34A is **not** about...

- Memorizing formulas
- Rote computations

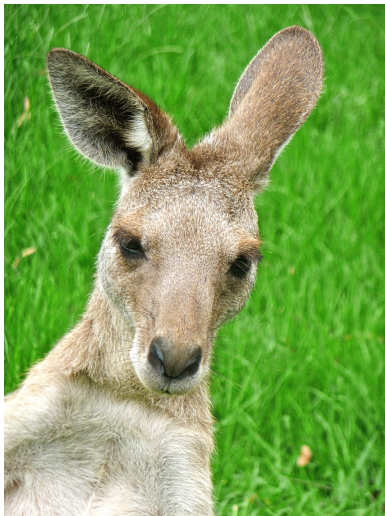
Math Magic Trick!

1. Pick a whole number (positive, integer)
2. Multiply it by 3, then add the digits together (repeatedly) until you get just one digit
3. Repeat the previous step: multiply by 3, then add until you have one digit
4. Subtract 5
5. Convert your number to a letter:

$1 \rightarrow A$ $2 \rightarrow B$ $3 \rightarrow C$ $4 \rightarrow D$ etc

6. Think of a country starting with your letter
7. Think of an animal starting with the last letter of the name of your country

I Sense...



Do You Have An i>clicker?

A = Yes, B = No, C = How Does This Even Work?

Everything Is On GauchoSpace

See <https://gauchospace.ucsb.edu/>

- Syllabus
- Homework:
 - On WeBWork (link on GauchoSpace)
 - Due before every lecture (usually 7am)
 - First one is due Wednesday, April 5th!
- Information about discussions and TAs
- Dates of midterm exams and final exam.
 - First midterm is April 19th! (Yikes!)
- Grading system
- A link to sign up with CLAS = Campus Learning Assistance Services

Everything Is On Gauchospace

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- **Great Effort Rule:** If you get a grade of C, C+ or B−, it will be **automatically** increased to a B, but **only** if you make a great effort. This means:
 - Come to all classes (and i>click!)
 - Come to all discussion sections (and take quizzes!)
 - Do (**seriously attempt**) all the homework.
 - Take all exams.
- Purpose of the class: Solving new problems you haven't seen before.
 - Use reasoning.
 - This is **very difficult**.
 - Memorizing formulas is silly.
 - Word problems are the point.

Problems!

1. Solve for x : $4x + 7 = 12$

$$A = 3 \quad B = 6 \quad C = 5/4 \quad D = 19/4 \quad E = ?$$

Answer: C

2. Solve for x : $ax + b = c$.

$$A = c/a \quad B = bc/a \quad C = (c+b)/a \quad D = c-b/a \quad E = (c-b)/a$$

Answer: E

More Problems!

3. Solve for x : $2x + 7 = ax + k$

$$A = (2 - k)/(a - 7) \quad B = (k - 7)/(2 - a)$$

$$C = (k - 7)/(a - 2) \quad D = k - 7/a - 2 \quad E = ?$$

Answer: B

4. Expand: $(1 - x)(1 + x + x^2)$

Moral: Parentheses Rock!

Word Problems!

4. The sum of three consecutive numbers is 99. What are the numbers?

Answer: $\boxed{32, 33, 34}$

5. Twice one number is three times another number. The sum of the two numbers is 110. What are the numbers?

Answer: $\boxed{66, 44}$

6. The perimeter of a rectangle is twice its area. Find a formula for the length of the rectangle in terms of its width.

Answer: $\boxed{L = \frac{W}{W-1}}$

Waitlist / Crashers

- All approval codes are controlled by the Math Department
 - Before Friday, April 7th:
 - Automatically done from waitlist through GOLD.
 - Approval codes emailed.
 - Approval codes are not currently available.
 - April 8th to April 21st (last day to add)
 - Only students on waitlist and crashing!
 - Approval codes mailed Thursdays: 4/13 and 4/20.
 - You have 24 hours to add.
- If you're crashing, please sign my crashers' list!