Ava Abrams

$$\int_0^1 \frac{x+1}{\sqrt{1+(x^2+2x)^3}}\,dx = \int \frac{x+1}{\sqrt{1+u^3}} \cdot \frac{1}{2(x+1)}\,du$$

$$= \frac{1}{2}\int_0^3 \frac{1}{\sqrt{1+u^3}}\,du$$

$u = x^2 + 2x$

$du = (2x+2)\,dx$

$du = 2(x+1)\,dx$

$\frac{1}{2(x+1)} = dx$

when $x = 0$, $u = 0^2 + 2(0) = 0$

when $x = 1$, $u = 1^2 + 2(1) = 3$

$a = 0$

$b = 3$

$F(u) = \frac{1}{2} \cdot \frac{1}{\sqrt{1+u^3}}$

* study surface area

- → simplify quotient rule
- → no revenue, cost, profit, complete the sq.
- → eq of tangent line
- → not log heavy
- → definition of derivative *
- → avg. ROC * $\frac{f(b)-f(a)}{b-a}$
- → inst. ROC * $\lim_{x \to a} \frac{f(x)-f(a)}{x-a}$
- → deriv. $\lim_{h \to 0} \frac{f(x+h)-f(x)}{h}$
- → left + right handed limit *
- → no compound log
- → no drawing
- → 04C q #1-2 ***
- → derivatives
- → jump + removable discontinuity
- → 04 q #2
- → Prod + quotient rule
  - ↳ 05A
- → In-class Exam (review on limits (1+2)

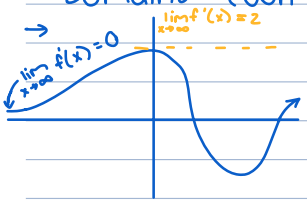
Unit 2

- → Trig rules
- → Implicit differentiation + find tangent line
  - ↳ 06C #3
- → Parametric equation
  - ↳ 07C #1
  - ↳ not ones w/ graphs
- → Fwd, bckwd, + central using chart
- → Linearization (find question on a review)
  - ↳ 08A #2
- → Find critical points
  - ↳ incr vs. decr
- → No MVT
- → 10B q #1 → DON'T FORGET "0"
- → Concavity

↳ 10C #3 → one of them does not have concavity change

→ Domains (don't include a value if not in range/domain) ***

→



→ Tutorial Week 11 #3

→ L'Hop

→ No sketching of graph

→ Optimization - box

→ No range

→ Newton's method → know trigs!!! ($\frac{\pi}{3}, \frac{\pi}{4}, \ldots$) ***

→ Integrals

→ 13B #3

↳ given accel., find pos.

→ 14A #2 *

→ Left/right endpoint

→ 15C (1st page)

→ Tut W15 #3 + #6

→ 2nd Fund. Theorem

↳ #3 Riemann Sum

→ Riemann Sum w/ table + graph

Final Exam Rev.

→ 1

→ 2

→ Front page!!! (just bad #'s but good review)

→ 10