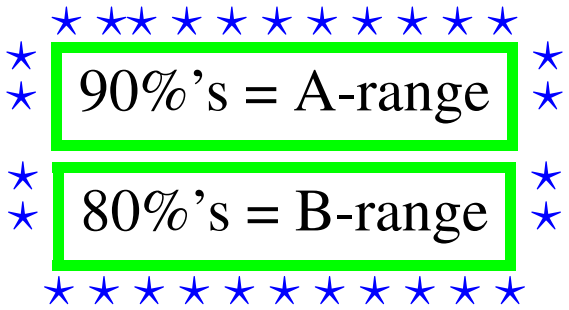
Welcome to class!

with Prof. D'Ambroise

High Expectations

Grading Standards



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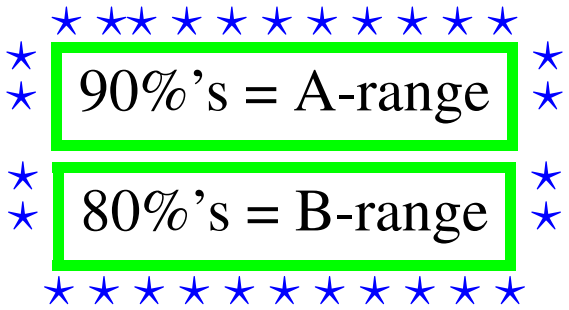
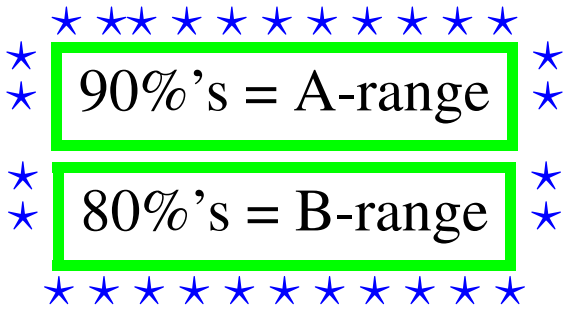


74-79% = C or C-plus = passing

Grading Standards



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60%'s = D-range = failing
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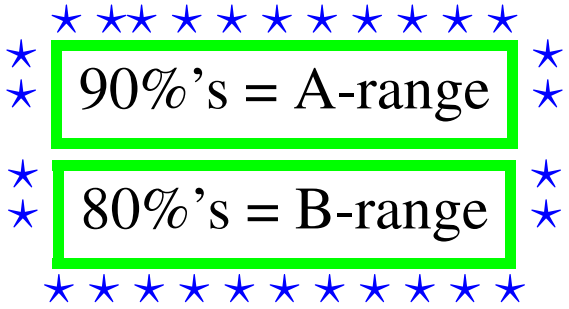

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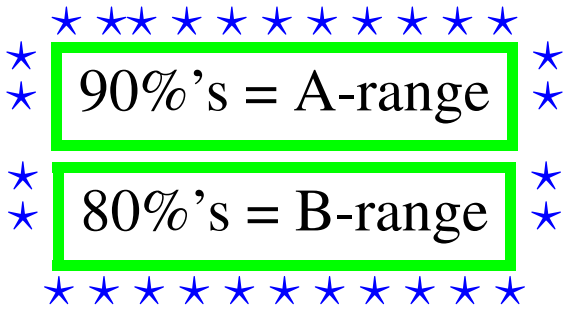
All students are held to the same high standards regardless of job/home/other class responsibilities.

Grading Standards

"Aim to pass" is a bad strategy (usually results in failure)



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Grading Standards

90%'s = A-range

80%'s = B-range

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"Aim for B" is better (not as risky & leaves room for error!!)

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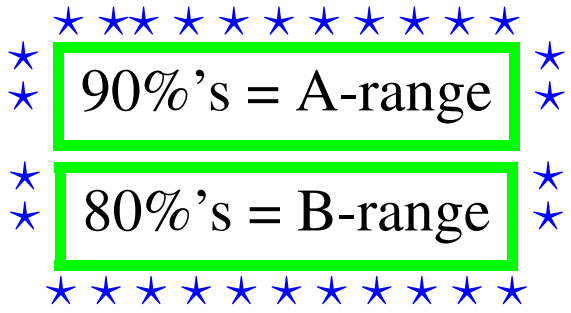

I hope you'll:
Aim for A !
Work hard !
Be humble !
Seek help !
:)

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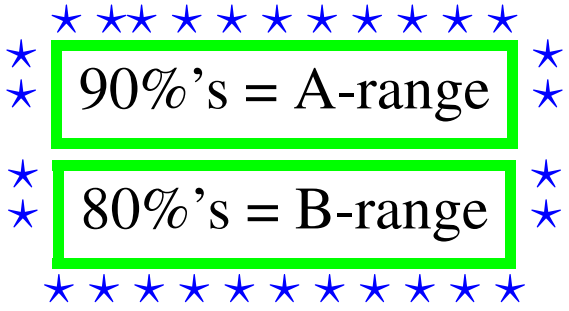
Grading Standards

Aiming to surpass is the best strategy!



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Time Commitment

A student *with a strong background* and *who learns at an average pace* will need to commit **at least 10 hours** to this class each week after class interacting *directly* with the course material.

You might need more!

Math is vast!

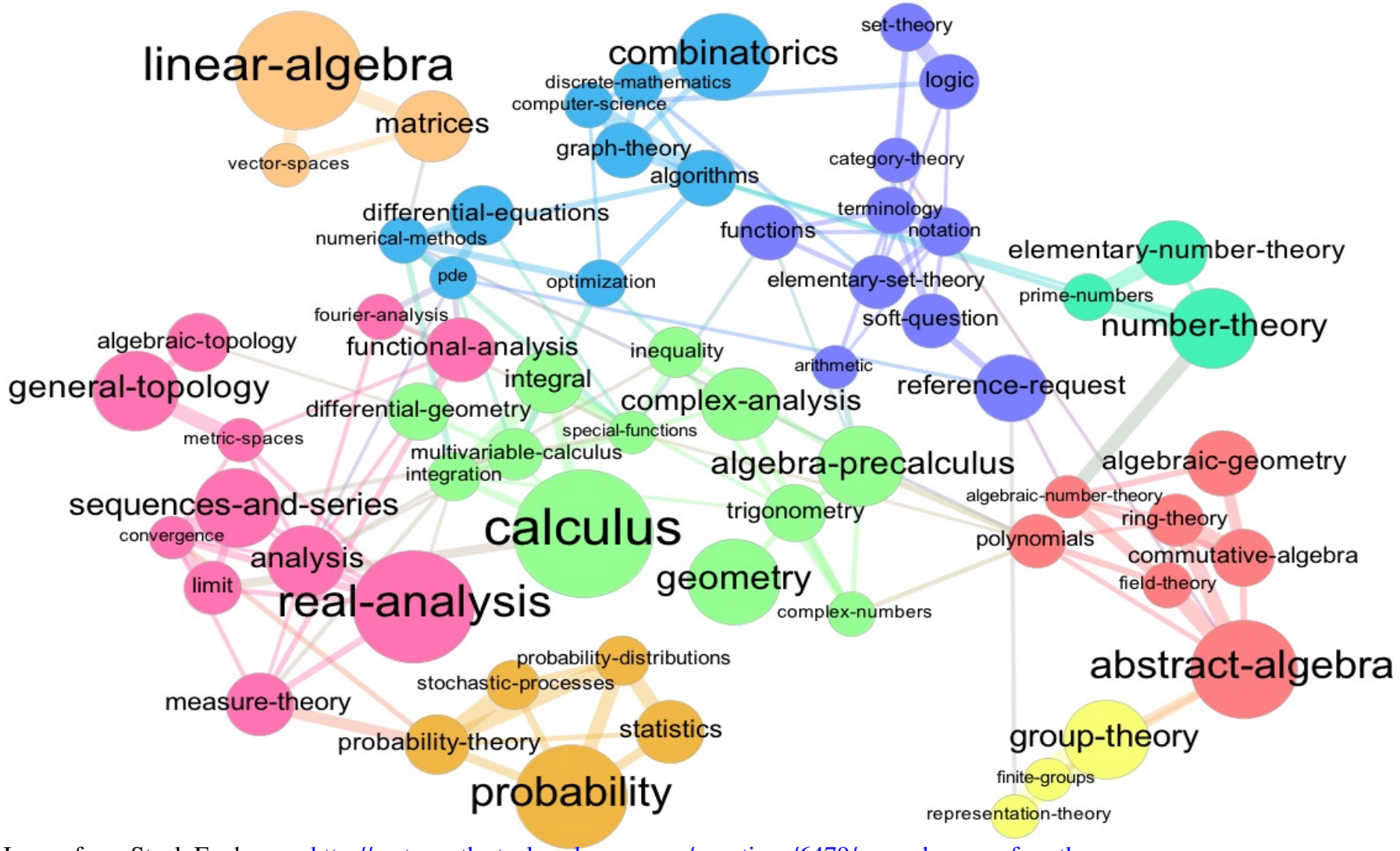

Image from Stack Exchange: http://meta.math.stackexchange.com/questions/6479/a-graph-map-of-math-se

Warning on outside resources

Relying too heavily on outside resources
can cause *confusion and failure!*

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If you use outside resources you must follow up with
reading the book, coming to office hours,
and interacting with *our* course material.

Only your Prof. can tell you what WE focus on in THIS class!

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- Read the syllabus thoroughly

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- Plan ahead, don't delay!

Understand the Five Stages of Learning†

† A Five-Stage Model of the Mental Activities Involved in Directed Skill Acquisition

by Stuart E. Dreyfus and Hubert L. Dreyfus, published by US Air Force, available at

http://www.dtic.mil/dtic/tr/fulltext/u2/a084551.pdf

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- knows the rules, but has no situational decision-making skills
- cannot adapt quickly or handle complex combinations of the rules

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The novice car driver knows the rules of the road but does not respond quickly or efficiently to new situations.

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1 Novice

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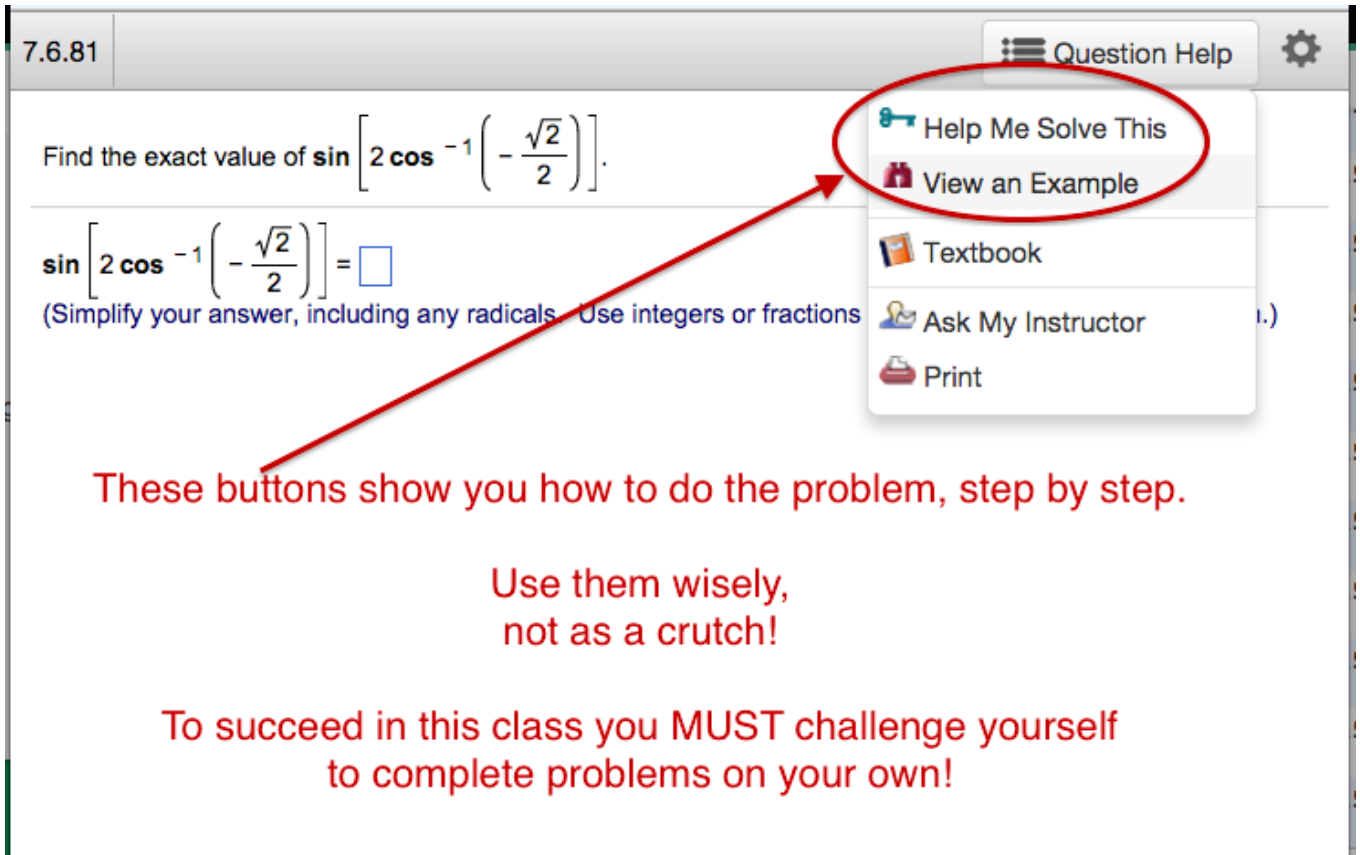
- cannot adapt quickly or handle complex combinations of the rules

The novice car driver knows the rules of the road but does not respond quickly or efficiently to new situations.

The novice math student knows the basics but cannot solve problems quickly or efficiently.

1 Novice Level
= first 1-2 homework problems with a topic

You cannot surpass novice level
if you rely too heavily on provided instructions.



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- understands exceptions or deviations to the rules that might apply in different situations
- knows which situations are advantageous and which to avoid

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The competent car driver can recognize various dangerous situations and s/he can correct the situation by applying differing techniques such as slowing down, swerving, pulling over, or other maneuvers.

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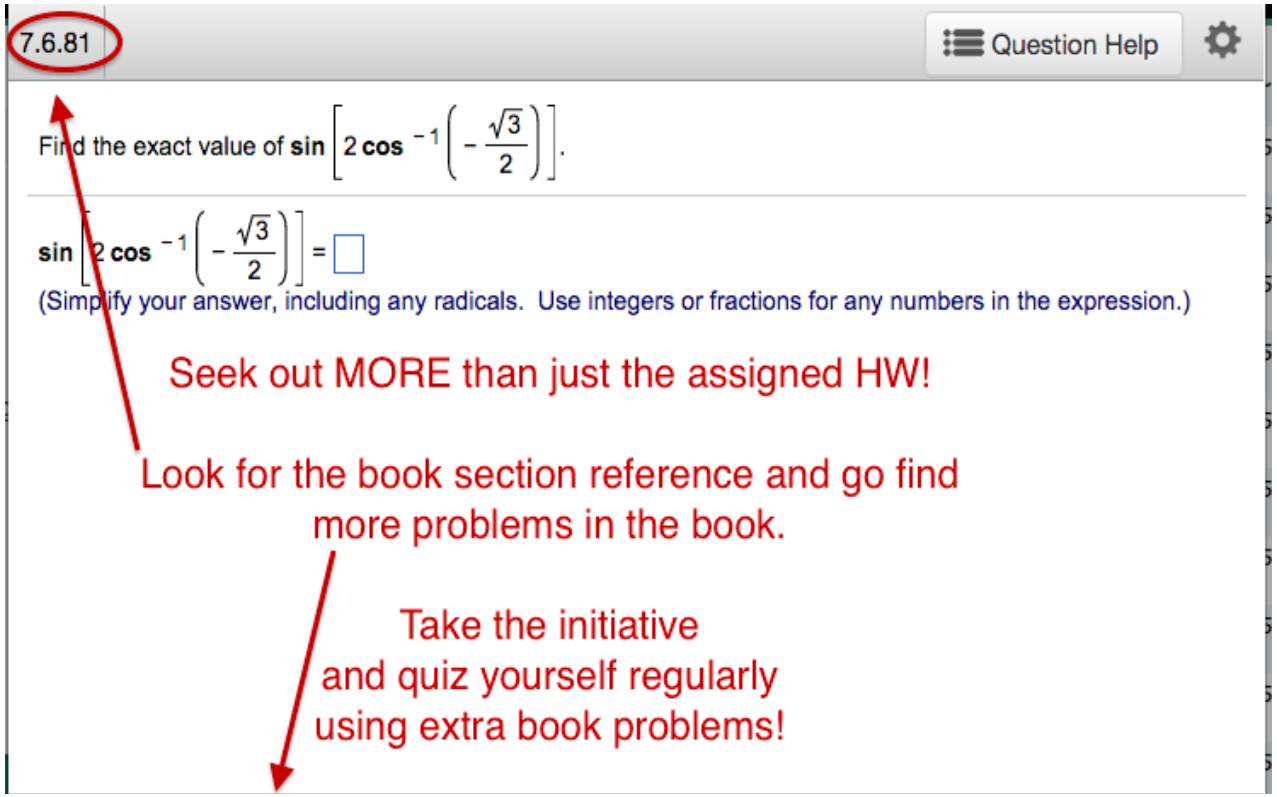
The competent car driver can recognize various dangerous situations and s/he can correct the situation by applying differing techniques such as slowing down, swerving, pulling over, or other maneuvers.

The competent math student knows how to deal with edge cases such as undefined quantities, and knows how and why to choose different techniques based on different situations.

2 Competent Level
= after many homework problems & additional studying

You cannot surpass the competence level
if you don't test yourself frequently.



In Problems 81–92, find the exact value of each expression.

81. $\sin\left(2\sin^{-1}\frac{1}{2}\right)$ **82.** $\sin\left[2\sin^{-1}\frac{\sqrt{3}}{2}\right]$ **83.** $\cos\left(2\sin^{-1}\frac{3}{5}\right)$ **84.** $\cos\left(2\cos^{-1}\frac{4}{5}\right)$

Understand the Five Stages of Learning

3 Proficiency

- less focus on situational difficulties
- more focus on long term goals

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The proficient car driver responds naturally to situational difficulties; they focus more on the higher overall goal of getting to the destination safely.

The proficient math student knows how to respond to edge cases and s/he knows how to choose between various techniques; they focus most on higher level understanding such as relating math to their desired career goals among other things.

3 Proficient Level = your goal before each quiz

Quiz = practice exam.

To perform at the proficiency level,
get substantial help *before quizzes*.

Understand the Five Stages of Learning

4 Expertise

- learner responds automatically without consciously using rules
- *highly developed and accurate* intuition; rules are instinctual

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The expert car driver has seen so much on the road that s/he is not surprised at challenges or incidents, and responds to them automatically.

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4 Expertise

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- *highly developed and accurate* intuition; rules are instinctual

The expert car driver has seen so much on the road that s/he is not surprised at challenges or incidents, and responds to them automatically.

The expert math student has seen so many problems that they are not surprised at the exam questions. The expert wastes no time deciding between various methods because they respond know instinctually what to do.

4 Expert Level = your goal before each exam

Exams test you at the expert level.

A rough guide for what to expect

- expert level knowledge = B or above on exam

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- expert level knowledge = B or above on exam
- competence or proficiency level knowledge = possible exam pass
- novice or competence level knowledge = exam failure

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5 Mastery

- moments of intense absorption in the subject matter
- mental energy no longer needed to produce nearly perfect results

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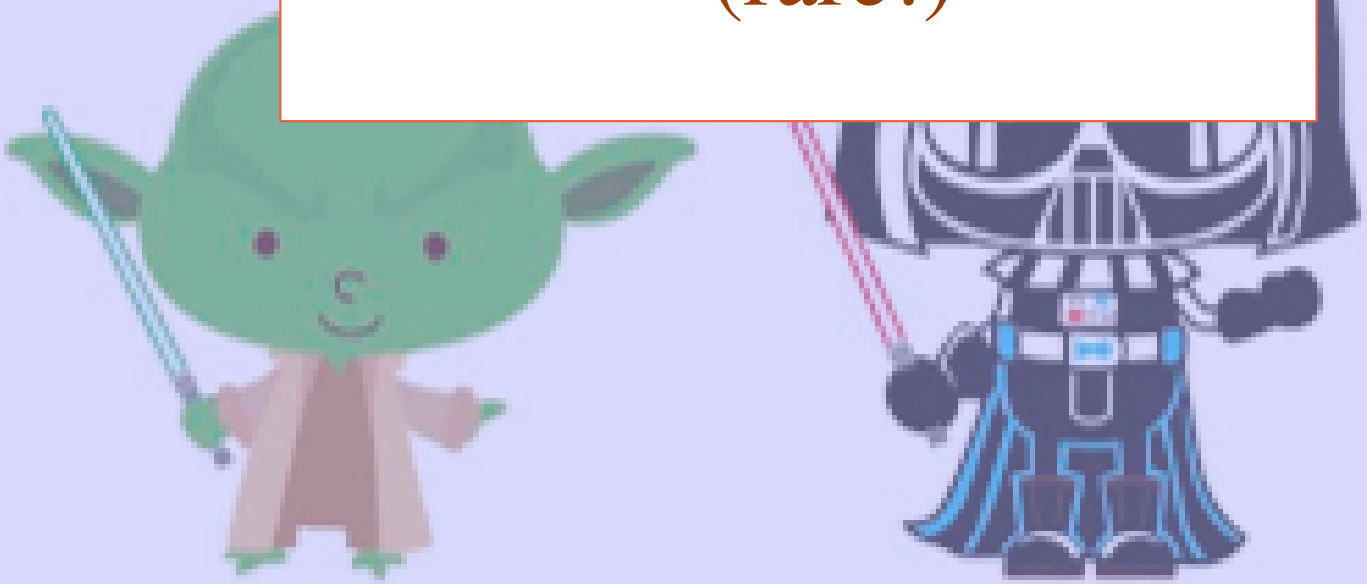
Mastery = A-performance (rare!)



Official Prerequisite = C or higher in Calculus I

Calculus I = most of Chapters 2-5.

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UnOfficial Prerequisite = A-level understanding of most of Chapter 3

Check Course HUB on Blackboard for details.

Everyday